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WORK SMARTER, NOT HARDER

Elements of deliberate practice in expert organizations

Master's Thesis
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Abstract

The objective of this thesis was to find out how managers in expert organizations utilize elements of a theoretical concept called deliberate practice in their work. Deliberate practice is defined as a carefully structured and monitored activity, the explicit goal of which is to improve performance in a given field. It assumes immediate feedback and corrective actions, requires exhausting effort and focus on the task, and should be repeated over a long period of time. The theory of deliberate practice is widely researched in domains such as sports and music, but scientific literature is scarce in the domain of business. Previous research suggests that there could be benefits in incorporating deliberate practice methods to the work environment, and therefore, it is evident that more research regarding the subject in the context of professions is needed. Based on the existing literature, four key elements of deliberate practice were identified in this study: Appropriate design, increased effort, frequent repetition, and informative feedback.

The empirical research for this study was conducted in the form of a multiple-case case study by qualitatively interviewing nine business professionals employed by four expert organizations operating in Finland. The interviews were semi-structured according to a preplanned interview guide with open-ended questions that allowed the interviewees to elaborate on the topics. All interviews were conducted face-to-face in Finnish, recorded with an audio recorder, and transcribed word-for-word to enable an accurate data analysis.

The data analysis yielded several significant findings. It was established that managers in expert organizations design their work activities carefully to optimize efficiency, and that they prioritize difficult and unfamiliar tasks in order to create challenges for themselves. While it also demands increased effort and is mentally exhausting, the performance of these unfamiliar tasks is viewed as the most important activity for development. Instead of the accumulation of practice hours, relevant work experience and long-term involvement in the field were found to be predictors of business expertise. Finally, the interviewees favored informal feedback from colleagues over heavy organizational processes and stressed the importance of peer support instead of coaching.

The conclusions that this study arrives in can be condensed into two key takeaways: 1. Managers in expert organizations deliberately design their work activities to include unfamiliar tasks, which require high concentration to learn, and 2. Managers actively seek feedback and other forms of peer support from colleagues with the purpose of improvement in mind. The managerial implications of these takeaways are that expert organizations should provide their employees with opportunities to constantly perform unfamiliar tasks to enable their professional development, and that employees should be encouraged to engage in as much informal interaction and peer-to-peer consultation with colleagues as possible.

Keywords deliberate practice, expert organizations, development of expertise

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Tiivistelmä

Tämän tutkielman tarkoitus oli tutkia sitä, millä tavoin asiantuntijaorganisaatioissa esimiesasemassa toimivat henkilöt hyödyntävät deliberate practice -teorian osatekijöitä työssään. Deliberate practice on huolellisesti jäsennettyä ja tarkkaan valvottua toimintaa, jonka nimenomainen tarkoitus on parantaa suoritusta. Sen oletusarvoja ovat välitön palaute ja korjaavat toimenpiteet, ja se vaatii ankaraa ponnistelua, keskittymistä suoritukseen sekä paljon toistoja. Teoriaa on tutkittu laajalti esimerkiksi urheilussa ja musiikissa, mutta tieteellistä kirjallisuutta teorian soveltamisesta liiketalouden alalle on hyvin vähän. Aiempi tutkimus antaa viitteitä siitä, että deliberate practice -toimintatapojen sisällyttämisestä työympäristöön voisi olla hyötyä, ja siksi lisää tutkimustietoa aiheesta ammatillisessa kontekstissa tarvitaan. Tässä tutkimuksessa määritettiin deliberate practice -teorian neljä olennaista osatekijää olemassa olevan kirjallisuuden pohjalta: tarkoituksenmukainen suunnittelu, lisääntynyt vaivannäkö, korkea toistojen määrä ja informatiivinen palaute.

Empiirinen tutkimus tehtiin monitapaustutkimuksena haastattelemalla yhdeksää liiketalouden ammattilaista, jotka työskentelivät neljässä eri asiantuntijaorganisaatiossa Suomessa. Haastattelut olivat puolistrukturoituja etukäteen suunnitellun haastattelurungon mukaisesti ja sisälsivät avoimia kysymyksiä, jotta vastauksista saatiin laajoja ja perusteellisia. Kaikki haastattelut tehtiin kasvotusten suomeksi sekä nauhoitettiin ja litteroitiin sanasta sanaan tarkan data-analyysin mahdollistamiseksi.

Analyysi tuotti useita merkittäviä löydöksiä. Todettiin, että asiantuntijaorganisaatioissa toimivat esimiehet suunnittelevat työaktiviteettinsa huolellisesti tehokkuuden optimoimiseksi, ja että he priorisoivat vaikeita ja uudenlaisia tehtäviä luodakseen itselleen haasteita. Uudenlaisia tehtäviä pidettiin kehittymisen tärkeimpinä tekijöinä, ja ne vaativat tavallista enemmän vaivannäköä ja ovat henkisesti uuvuttavia. Ilmeni, että harjoittelutuntien määrää tärkeämpää liiketalouden asiantuntijuudelle ovat soveltuva työkokemus ja pitkäaikainen työskentely alalla. Haastateltavat pitivät kollegoilta saatavaa epämuodollista palautetta tärkeämpänä kuin raskaita organisaation laajuisia prosesseja ja painottivat vertaistuen tärkeyttä valmennuksen sijaan.

Tutkimuksen johtopäätökset voidaan tiivistää kahdeksi pääkohdaksi: 1. Asiantuntijaorganisaatioissa toimivat esimiehet suunnittelevat tarkoituksellisesti työaktiviteettinsa sisältämään uudenlaisia tehtäviä, joiden oppiminen vaatii keskittymistä, ja 2. Esimiehet hakevat aktiivisesti palautetta ja muita vertaistuen muotoja kollegoilta kehittyäkseen. Näiden pääkohtien käytännön implikaatiot ovat, että asiantuntijaorganisaatioiden tulisi tarjota työntekijöilleen jatkuvasti mahdollisuuksia suorittaa uudenlaisia tehtäviä heidän ammatillisen kehittymisensä mahdollistamiseksi, ja että työntekijöitä tulisi rohkaista osallistumaan epämuodolliseen kanssakäymiseen ja vertaistukitoimintaan kollegoiden kanssa niin paljon kuin mahdollista.

Avainsanat deliberate practice, asiantuntijaorganisaatiot, ammatillinen kehittyminen

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1 INTRODUCTION

What is it that makes some people experts, or extremely great at what they do, while the overwhelming majority become only average at performing the same task? The recipe for greatness has generally been attributed to either hard work or talent. The question that comes to mind when the former explanation is heard is that if one can become an expert by simply working hard, why are so many hard workers not enjoying enormous success in their professions? The latter explanation, talent, makes little sense as well: If greatness at something is innate and certain people are born with certain abilities, why do people go to tremendous lengths in investing time, money, and effort into practicing something?

Chapter 1 of this thesis presents the introduction to a particular concept of expert performance at any given field. It is a theoretical explanation of what is needed to become great, and ultimately an expert, in something. This chapter includes a brief background for the concept as well as a quick summary of previous research on the theory. These in turn result in the research gap of the thesis, which is also presented here in this chapter. The research objective and research question, along with the limitations of the study, are discussed as well.

1.1 Background

Before starting to talk about possible explanations for becoming an expert, it is first appropriate and even necessary to clarify, what kind of a person the term expert is meant to depict. An expert, according to a definition by *The new shorter Oxford English dictionary* (1993), is: "A person with the status of an authority (*in* a subject) by reason of special skill, training, or knowledge; a specialist." In other words, an expert is a person who is capable of performing at a high level, whether physically or mentally, and is recognized by others to be able to do so. An expert, by definition, also seems to always have a particular field in where the said person in fact is an expert, a specific domain where the high performance is acknowledged. It follows that expert – alone, without a clarification – is not a profession, a title, or an attribute, but one can become an expert in any given profession or skill.

How to recognize an expert? A person judged to be an expert in a given field possesses specific expertise highly applicable and limited to that very same field. Expertise is the characteristics, skills, knowledge, and experience that separate the expert from non-experts and less experienced people (Ericsson, 2006a). To put it simply, expertise consists of the things that make an expert better than the rest. Once the characteristics of expertise for a field are identified, determining who is an expert and who is not can be done in two ways. The absolute approach sets a certain level of expertise which must be reached in order to be considered an expert, whereas the relative approach considers that the most knowledgeable or skillful are experts and contrasts them with the least knowledgeable and least skillful, called novices, amateurs, or beginners. This study employs the relative approach, because it is more relaxed: It uses comparisons between groups and always finds that the best are experts, regardless of their absolute proficiency level. (Chi, 2006.)

The level of expertise can be objectively measured in some fields such as sprint running or collectively agreed upon in others such as acting. Nevertheless, expertise is not something that can be concretely defined and narrowed down to specific skills which apply across domains. But does expertise in sprint running look completely different from expertise in acting – or more generally, how much do the characteristics of expertise vary across every imaginable field? K. Anders Ericsson, a Swedish psychologist, professor, and eminent scholar, has been studying expertise and expert performance for decades. He is widely recognized as one of the world's leading researchers on the topic. In his view, the principles in the background which enable the various manifestations of expertise across domains are similar enough that it is perfectly feasible to study expertise itself and form theories concerning it.

> *"The premise for a field studying expertise and expert performance is that there are sufficient similarities in the theoretical principles mediating the phenomena and the methods for studying them in different domains that it would be possible to propose a general theory of expertise and expert performance."* (Ericsson, 2006a, p. 9.)

Does this general theory provide people with some principles or guidelines for attaining expertise in any chosen field, and is it possible to become great at something as a consequence of following these guidelines? 'Practice makes perfect' is a well-known saying, but studies of expertise conducted in the last thirty years have proposed a theoretical method for success at a chosen field: **deliberate practice**. Ericsson, Krampe, and Tesch-Römer (1993) introduced the concept a few decades ago, explaining that the term means engaging in practice activities that have been specially designed for the sole purpose of improvement of the current level of performance:

> *"Deliberate practice is a highly structured activity, the explicit goal of which is to improve performance. Specific tasks are invented to overcome weaknesses, and performance is carefully monitored to provide cues for ways to improve it further. … Deliberate practice requires effort and is not inherently enjoyable. Individuals are motivated to practice because practice improves performance."* (p. 368.)

Deliberate practice is a carefully structured and monitored activity that assumes immediate feedback and corrective actions, requires exhausting effort and focus on the task, and should be repeated frequently over a period of at least 10 years to reach expert status. The only motivation for engaging in deliberate practice is because it facilitates improvements in performance; thus, it is differentiated from work and play in that it includes no monetary rewards or inherent enjoyment. (Ericsson et al., 1993.)

1.2 Research gap and research objective

Deliberate practice is widely researched in domains such as sports (e.g. Baker, Côté, & Deakin, 2005; Ford, Ward, Hodges, & Williams, 2009; Helsen, Starkes, & Hodges, 1998), music (e.g. Ericsson et al., 1993; Lehmann & Ericsson, 1996), and chess (e.g. Charness, Tuffiash, Krampe, Reingold, & Vasyukova, 2005; Simon & Chase, 1973). In general, most of the research so far supports the theory and its role in developing expertise, although some researchers have proposed modifications to the theory or suggested omitting certain minor parts of it. Still, the overall results of the studies have clearly been in favor of the theory of deliberate practice. Nevertheless, conflicting arguments regarding the importance of deliberate practice for the development of expertise have also been made recently (e.g. Ackerman, 2014; Campitelli & Gobet, 2011; Hambrick et al., 2014). The opposing researchers say that while deliberate practice certainly plays a crucial part in developing expertise, its role has been grossly overstated. The argument is that various other elements, such as memory capacity and general intelligence, are also important factors.

In contrast to sports and musical studies, very few academic papers have been focusing on how deliberate practice can be harnessed to help achieve excellence at workplace. Ericsson (2004, p. S70) notes: "The factors that cause large individual differences in professional achievement are only partially known". Part of the reason for this lack of research might be the difficulties in

measuring expertise, particularly in the business realm, as opposed to the ease of measurement and objective data in most sports. The scarce body of literature about deliberate practice as a tool for improvement in the professional context includes research on medicine (Ericsson, 2004; McGaghie, Issenberg, Cohen, Barsuk, & Wayne, 2011), teaching (Dunn & Shriner, 1999), sales (Sonnentag & Kleine, 2000), and corporate training (McEdwards, 2014).

The findings of these studies, especially McGaghie et al.'s (2011) and McEdwards' (2014) papers regarding learning at work, suggest that there can be clear benefits in incorporating deliberate practice methods to the work environment. Therefore, it is evident that more research on the subject in the context of professions is needed. The starting point of this thesis was rooted in the idea that the theoretical framework of deliberate practice could be adapted to serve the development of expertise of employees and their everyday working habits in business corporations.

The main objective of this thesis was to find out how managers in expert organizations utilize the deliberate practice framework in their daily work. More specifically, nine employees working at least at the managerial level in expert organizations operating in Finland were interviewed, and their daily work activities were studied through the four key elements of deliberate practice that were identified during the research – these key elements, which form the backbone of this study, are design, effort, repetition, and feedback. In this way, this thesis adds to the academic knowledge of deliberate practice as a tool for developing expertise in the professional context and in the business realm. Besides contributing to the academic knowledge of the topic, this thesis also provides valuable information to both employees and employers in the business sector. The manifestation and impact of deliberate practice in the development processes and learning methods of business professionals in expert organizations provides an insight into what it takes to have exceptional skills in the corporate world.

1.3 Research question

Based on the aforementioned existing body of academic literature and the clear research gap that it implies, and in accordance with the limitations of this study, one research question was formulated. The research question that this study set out to answer was:

How do managers utilize elements of deliberate practice in their work at expert organizations?

In order to find answers to the research question, nine qualitative interviews were conducted. The most important findings of these interviews are presented in Chapter 4 and discussed in Chapter 5. The interviews constitute the empirical research for this study.

1.4 Structure of the study

Chapter 1 presents an introduction to the theory of deliberate practice, including its background and a brief summary of the previous research related to it. The research gap, and the research objective are presented in this chapter as well. Finally, the research question of the thesis is formed in this chapter and the structure of the study is described.

In Chapter 2, the previous research on deliberate practice and its adaptability to several domains is reviewed more closely. Studies about deliberate practice in music, sports, chess, medicine, teaching, and corporate training are discussed. Some of the criticism towards the concept and its importance for the development of expertise is also included, along with a few of the alternative explanations for differences in performance. Chapter 2 is concluded by combining the academic literature to create an illustration of the theoretical framework of deliberate practice for the empirical part of this study.

The methodological choices for the empirical part of the thesis are presented in Chapter 3. The design for the research is discussed, including the argumentation for selecting the qualitative case study method. This chapter also explains the systematic combining process and the theoretical sampling method, both of which are used in this study. In addition, Chapter 3 provides information about the participants for this study as well as information about the chosen data collection method and the implemented data analysis technique. Finally, the issues of validity, reliability, and the limitations of the study are discussed.

Chapter 4 introduces the most important findings of the nine qualitative interviews that were conducted. All interviews were carried out in the form of face-to-face interviews, recorded, and transcribed word-for-word. The interviewees' native language, Finnish, was used in the interviews, and the direct quotations that are presented in Chapter 4 are English translations of the original interviews. The appendix at the end of this thesis presents the interview guide that was used to structure the interviews.

In Chapter 5, the key findings of the study are discussed and analyzed. The analysis compares the most important findings from Chapter 4 with the literature review and the theoretical framework presented in Chapter 2. Ultimately, it serves as the basis for the conclusions that are made in this study.

Chapter 6 presents a summary of the research and answers the research question both in written form and visually. It also discusses the key managerial implications of the study and suggests some avenues for further research on the topic of deliberate practice in business. It is the final chapter of this study.

2 LITERATURE REVIEW

Scientific literature on deliberate practice is abundant in the domains of sports, music, and chess, where various studies create a reliable and multi-faceted body of knowledge for the topic. Studies in the context of professions and work have been scarce in comparison, however, and it is especially true in the domain of business. This chapter reviews the relevant previous research about deliberate practice.

The literature review starts with the definition, the characteristic elements, and the accompanying assumptions of deliberate practice; special emphasis is put on introducing Ericsson et al.'s (1993) widely cited foundational article. The elements provide a basis on which to form the theoretical framework and the subsequent empirical part of the thesis – each of the four elements of deliberate practice is looked at more closely through the existing body of research. Studies of deliberate practice in music, sports, and chess are summarized to show evidence for the validity of the theory and its adaptability to several domains. Also, previous research investigating deliberate practice as a tool for professional development and the attainment of expertise at work is presented; this is vital in order to gain knowledge about the efforts to study the phenomenon in the work environment and present the background on which this study tries to build upon. After presenting previous research in favor of deliberate practice in different fields, some of the criticism towards the theory is also discussed along with a few of the alternative explanations of what are the components of attaining expertise. The final part of the chapter presents the preliminary theoretical framework for this study.

2.1 Definition of deliberate practice

Ericsson et al.'s (1993) groundbreaking research article begins with reviewing historical discussion about how eminent people came to be eminent. The authors make arguments against several general beliefs of how exceptional performance in a given field is acquired. They state, with extensive evidence, that "the view that merely engaging in a sufficient amount of practice, regardless of the structure of that practice, leads to maximal performance has a long and contested history" (p. 365). In their view, the simple explanation of large amounts of practice is not enough for developing expertise, when practice activities are not well structured. The article also discusses how the

argument for innate talent or hereditable genetic characteristics contradicts the domain-specific nature of the level of performance of exceptional people, as these domain-specific skills can only be mastered by practicing them extensively.

The theoretical definition of deliberate practice is that it consists of structured, monitored, and effortful high-quality practice activities (e.g. Coughlan, Williams, McRobert, & Ford, 2014; Duvivier et al., 2011; Sloboda, Davidson, Howe, & Moore, 1996). These activities are repeatedly performed and both the subject's performance and the activities themselves are continuously evaluated and modified. All of this is done solely for the purpose of improvement:

> *"Deliberate practice is a highly structured activity, the explicit goal of which is to improve performance. Specific tasks are invented to overcome weaknesses, and performance is carefully monitored to provide cues for ways to improve it further."*
> (Ericsson et al., 1993, p. 368.)

In order to help specify its nature, Ericsson et al. (1993) contrast deliberate practice with work and play. Work is characterized by offering external (monetary) rewards, whereas play and deliberate practice lack them almost completely. Play is conducted purely for the play itself and for the enjoyment it creates, whereas deliberate practice produces little or no enjoyment, but requires a great deal of time and effort. Thus, compared to work and play, deliberate practice generates costs rather than rewards and is not, for the most part, an enjoyable activity.

Later, Ericsson (2006b) has described some of the particulars of the process. One of the most important aspects of the theory is that tasks should be designed in a way that performing them is just outside of the subject's 'comfort zone', but not so much that mastering them will prove extremely difficult:

> *"The core assumption of deliberate practice is that expert performance is acquired gradually and that effective improvement of performance requires the opportunity to find suitable training tasks that the performer can master sequentially. … Deliberate practice presents performers with tasks that are initially outside their current realm of reliable performance, yet can be mastered within hours of practice by concentrating on critical aspects and by gradually refining performance through repetitions after feedback."*
> (p. 692.)

Finally, it is important to point out that while experts in any given field are often highly experienced, experience is not a synonym for expertise. Ericsson et al. (1993) specifically postulate that experience alone does not automatically produce expertise. They rationalize this by stating that even highly experienced individuals can further improve their performance by deliberate efforts of doing so. Similarly, Ericsson (2006a, p. 13) explains that most people seek to improve their performance for a while until they reach "an acceptable level". After that, further improvements seem to be unpredictable and not related to the professional experience and free time exposure to the particular domain. From this, Ericsson arrives to the conclusion that increased experience does not automatically result in an improvement in skills.

2.2 Elements of deliberate practice

What does deliberate practice look like? At its core, it is a learning process, so it is reasonable to compare it to the process of learning a new skill or acquiring deeper knowledge of a topic. Consequently, Ericsson et al. (1993) summarize the extensive educational research for the optimal conditions for learning, skill acquisition, and improvement of performance. The following citation introduces four components that are central to not only learning, but also to the theory of deliberate practice and the acquisition of expert performance:

> *"The most cited condition concerns the subjects' motivation to attend to the task and exert* ***effort*** *to improve their performance. In addition, the* ***design*** *of the task should take into account the preexisting knowledge of the learners so that the task can be correctly understood after a brief period of instruction. The subjects should receive immediate informative* ***feedback*** *and knowledge of results of their performance. The subjects should* ***repeatedly*** *perform the same or similar tasks."* (p. 367, emphases added.)

The four elements required by the framework for an activity to be considered deliberate practice are thus design, effort, repetition, and feedback. The design of the task should be appropriate; it should be well-structured, progress logically, and take into account the subject's preexisting knowledge. Increased effort should be exerted to complete the task, as concentration enhances the development process. The task should be repeated frequently for optimal learning. And finally, feedback for the performance should be informative, describing what went well and suggesting corrective actions.

These four essential elements of deliberate practice are brought together in Figure 1 to form the first draft of the theoretical framework upon which this literature review builds:

Figure 1. The four essential elements of deliberate practice.

Two additional statements that fall inside the framework are the monotonic benefits assumption and the early engagement hypothesis. The logic behind the monotonic benefits assumption is that the amount of time spent engaging in deliberate practice activities monotonically correlates to the acquired levels of performance. This theoretical assumption suggests that individuals should maximize the amount of deliberate practice time to achieve expert performance, and the process of reaching excellence requires at least 10 years of deliberate practice. However, it is explained that the maximization attempt is constrained by resources such as available time and training facilities (the resource constraint), exhaustion because of the required effort (the effort constraint), and the lack of inherent reward (the motivational constraint). (Ericsson et al., 1993.)

Consistent with the monotonic benefits assumption, the early engagement hypothesis proposes that an individual starting at an earlier age than others will have accumulated more deliberate practice and thus acquired higher levels of performance at any given age. Ericsson et al. (1993) present evidence for the hypothesized advantages of an early start in a given domain, stating that in many domains, elite performers tend to start instructed practice at a very young age. The conclusion is that the attained level of performance for experts is directly related to the starting age; the younger the performer is when first exposed to a domain and the earlier the start of structured practice sessions, the higher the ultimate performance level.

It should be noted that the monotonic benefits assumption and the early engagement hypothesis are not directly comparable to the four elements of deliberate practice. Rather, they are theoretical additions to one of the elements: The repeated performance of a task over a long period of time. Thus, they are components already included in the element of frequent repetition in Figure 1 above. Next, each of the four essential elements is reviewed more closely through the academic literature on deliberate practice.

2.2.1 Appropriate design

The design of practice activities, and thus the quality of practice, is a key element for developing a particular skill and it contributes to separating the experts from the rest (e.g. Baker et al., 2005). As with any kind of practice, the element of design is the starting point of deliberate practice as well; a task must first be designed before it can be correctly performed.

Design can be understood in many ways, and words such as qualitative, systematic, planning, and preparing are repeated throughout the deliberate practice literature. Here, all of these words are considered to be indicators for practice design, and the element is examined through the literature from the points of view of music, sports, and professions.

Design in music and sports

Many of the articles written about deliberate practice in music and sports talk about the high quality of practice when studying the practice methods of experts. In music, there is evidence that professional musicians practice at a qualitatively greater level than amateurs. The argument is that as a result of this qualitatively different practice, expert performance is qualitatively different from normal performance and expert performers have qualitatively different abilities than normal performers. These results and the high quality of practice can be attributed to excellent practice designs, such as concentrating practice hours in the mornings. High achievers are stated to have a tendency of focusing on morning practice to a greater extent than others. The experts are also

reported to have more day-to-day and week-to-week stability in their practice designs. (Ericsson et al., 1993; Sloboda et al., 1996.)

Lehmann and Ericsson (1996, p. 25) talk about the "appropriate self-imposed challenges" of expert sight-readers – sight-reading being the ability to perform unfamiliar music without preparation. In the study, expert pianists are reported to progress from practicing the sight-reading of easier unfamiliar musical pieces to practicing more complex pieces as their level of experience grows. The design of their practice activities is such that they present adequate challenges for themselves, each a bit more difficult than the last one. Appropriately challenging activities are viewed as very important in developing expertise in sight-reading skills.

As another very concrete example of the importance of design, Rainero (2012) demonstrates what can be achieved when deliberate practice is applied to vocal education. She shows that by breaking a vocal piece of music down to its core elements, which are melody, rhythm, and language, a singer is able to concentrate on practicing each element separately. She claims that in designing a singing lesson in such a way, deliberate practice produces distinguishable progress in vocal technique, expressivity, and memorization. Contrasting this teaching method with the so-called "undeliberate practice", Rainero (p. 203) says that the deliberate practice method is "quicker and more effective" in that it decreases learning time and increases successful performance level.

In the domain of sports, the training of experts is much more systematic than the training of intermediates or amateurs (Baker et al., 2005; Coughlan et al., 2014). A study on how expert and intermediate Gaelic football players practice two different types of kicks within the deliberate practice framework found that the experts systematically practiced their weaker kick and the intermediate players practiced their stronger kick, a clear difference in the practice designs between the two groups. Consistent with the theory of deliberate practice, the accuracy of the expert group improved more and the improvement was confirmed to be more permanent by a retention test than that of the intermediate group. This indicates that the quality of their deliberate practice was higher, and the improvement was due to the differences in the design of the practice activities. (Coughlan et al., 2014.)

Likewise, the training of expert ultra-endurance triathletes was found to be more systematic and with a more balanced effort management than that of amateur triathletes. More specifically, it is explained that the training of the experts is designed in the way that periods of high training stress and low training stress alternate appropriately. This way, the experts are able to continuously train

at high workloads and still recover, and at the same time avoid injuries, overtraining, and burnout. The results point towards the same conclusion: that an appropriately designed practice structure can result in greater improvement in abilities. (Baker et al., 2005.)

Some of the research in sports has, however, challenged a certain element of the original deliberate practice framework related to practice design; the claim by Ericsson et al. (1993) that practicing alone is highly relevant for expertise development. In team sports, such as football and handball, some argue that the definition of deliberate practice should be modified. It should consist of individual practice, practice with others, and team practice, if it is to be applied in a meaningful way to team sports. The issue with applying the theory as such to team sports is that much of the practice is coach-determined and jointly performed, not necessarily benefiting each individual the most, and this is why individual deliberate practice and team deliberate practice would have to be considered separately. Alternatively, others propose that deliberate practice in team sports can be a shared activity, and both structured tactical training and match training can be considered as deliberate practice. When adapting this point of view, team cognitive skills and teamwork are shown to be essential in the acquisition of expertise of a team and its players. (Helsen et al., 1998; Lund, Musaeus, & Christensen, 2013.)

Furthermore, practicing alone can be extremely hard in some individual sports as well. An example of such a sport is wrestling, where one needs an opponent for most of the practice activities. It is predicted that in sports, and especially in team sports, training with others could be a more important factor for improving performance than training alone. Hodges and Starkes (1996) show that in their study of international and club-level wrestlers, the hours of practicing alone did not differ between the two groups, whereas internationally accomplished wrestlers practiced much more with other wrestlers than their club-level counterparts.

Design in professions

The appropriate design of training programs of corporations can be important for the development of employees. McEdwards (2011), in her doctoral dissertation, studied whether deliberate practice training at workplace leads to higher performance scores in a specific professional learning domain than traditional instructor-led seminar training. She found that not only does deliberate practice

training produce significantly higher learning results than seminar training, but it also appears to work equally well among the three groups (junior, intermediate, and advanced) created for the study based on work experience. The implication of the study is that instead of the traditional seminar training, designing a deliberate practice training program can be a useful training method for companies that must design training programs for employees of diverse professional backgrounds and experience levels.

Continuing her investigation of the design of deliberate practice training programs in the corporate setting, McEdwards (2014) looked at whether e-learning tools such as online practice modules and video mentoring could be used to deliver deliberate practice training. The study was conducted by randomly selecting senior professionals from a particular company and dividing them into two groups, an online deliberate practice training group and a traditional seminar training group. The results showed that designing online deliberate practice programs is a more efficient way of professional improvement and requires less workflow interruption than seminar training. In other words, the online deliberate practice training program was shown to be qualitatively better than traditional seminar training. Moreover, the e-learning group reported a very positive and pleasant training experience after which they viewed their work and the case company in a more positive light, whereas the seminar training group expressed more negative feedback towards their training.

When the framework of deliberate practice is applied to teaching, it includes four major components. An appropriate design of the relevant teacher activities consists of a common teaching language, the selection of a teaching strategy, the measurement of progress, and discussions with colleagues. There are indications that the deliberate practice approach to designing the teaching activities enables teachers to redesign their instructional performance in the core issues. Designing teaching with the framework in mind improves performance, challenges the learner, and provides feedback. (Han & Paine, 2010; Marzano, 2010.)

Both planning and preparation are manifestations of design. Dunn and Shriner (1999) investigated teacher activities with the characteristics of deliberate practice in mind. Their object was to find the teacher activities that best account for the development of expert performance. Their studies produced indications that evaluation and planning activities were perceived to be the most fitting for the theoretical framework of deliberate practice. In addition, the studies indicated that mental planning was identified as one of the important tools for improving organization, creativeness, and problem-solving.

When Sonnentag and Kleine (2000) studied the performance of insurance agents from the point of view of deliberate practice, they found that mental simulation, preparation, and concluding and assessing afterwards were carried out on a regular basis and with the goal of improvement in mind, constituting as possible deliberate practice activities for participating insurance agents. The findings are somewhat consistent with Dunn and Shriner's (1999) analysis of teachers' evaluation and planning activities being the most significant contributors to teaching expertise. Planning and preparation activities at work, in other words designing the work activities, are therefore found to be considered a part of deliberate practice.

Much of the literature regarding the design of deliberate practice activities in professions have to do with the practice of medicine. Ericsson (2004) investigated simulation technology and theorized that it could be used to provide training in medical schools. A few years later promising results have been reported. Linking together technology and deliberate practice, McGaghie et al. (2011) compared traditional clinical education with simulation-based medical education (SBME) designed as deliberate practice in a meta-analysis. The analysis summarizes that SBME with deliberate practice is a superior learning tool in attaining specific medical skills: "The results of this meta-analysis are clear and unequivocal. The meta-analytic outcomes favoring SBME with DP [deliberate practice] are powerful, consistent, and without exception." (p. 709.)

Liou, Chang, Tsai, and Cheng (2013) designed a deliberate practice training program for nursing students to examine its effects on the students' clinical competence. The results showed that the program facilitated a significant increase in the participants' clinical skill levels across all tested scales, and in particular, it was reported that students who practiced nursing skills by watching videos exhibited significantly higher level of competence after the program than those who did not. The studies indicate that designing a training program which uses external learning sources and technology in the context of deliberate practice can facilitate professional development in patient care and the acquisition of medical skills.

Part of the reason why the design of medical training programs is an important component of deliberate practice in medicine is because of the potential positive challenges it provides for medical professionals; these challenges in turn are related to new skill acquisition and the development of expertise. In medicine, where expertise is most clearly demonstrated in the effective treatments of medical conditions and diseases, treatments for most common diseases are highly standardized and offer little opportunities for exhibiting expert performance. The motivation to engage in work-related learning, expertise development, and deliberate practice activities is inherent to the job; the

motivation to learn is embedded in the will to provide better care for the patients, not a result of self-improvement goals that characterize the theory of deliberate practice. (Ericsson, 2004.)

The problem is claimed to be inappropriately designing the measurement for proficiency: Most medical schools and teaching hospitals set minimum acceptable standards for medical proficiency, measured by standardized tests, and this makes it more difficult to apply the deliberate practice approach to the domain. Although diagnoses and surgeries still allow for measurement of differences between expert and less advanced doctors, once an individual has reached the status of expert, there is no evaluative standard by which a doctor could be motivated to maintain the acquired performance level or improve it, as opposed to for example sports. Extra motivation and effort can nevertheless be found for solving specific problems that patients have. From this, it can be concluded that challenging problems are of value for professional development in everyday medical work, thus encouraging the design of work activities to include appropriate challenges. (Ericsson, 2004; van de Wiel & Van den Bossche, 2012.)

Summary of design

An appropriate practice design is often key to a successful performance of a deliberate practice activity. From the above literature, a few of the most important components of design can be derived. The practice tasks should be carefully structured (Ericsson et al., 1993; McEdwards, 2011; Rainero, 2012), they should exhibit systematic ways of working (Baker et al., 2005; Coughlan et al., 2014; Dunn & Shriner, 1999; Marzano, 2010), and they should adequately challenge the performer (Lehmann & Ericsson, 1996; Sonnentag & Kleine, 2000; van de Wiel & Van den Bossche, 2012).

When the most important components of design are added to the first draft of the theoretical framework in Figure 2, the ongoing process of forming the framework looks currently as follows:

Figure 2. The components of appropriate design highlighted.

In addition, one aspect of the original theoretical framework of deliberate practice related to design, namely that practicing alone is highly relevant for the development of expertise, has been challenged by multiple studies in the domain of sports. It can be reasonably stated that in many sports, practicing together yields higher results than practicing alone, and at least in team sports, team cognitive skills and teamwork also contribute to the acquisition of expertise. (Helsen et al., 1998; Hodges & Starkes, 1996; Lund et al., 2013.)

2.2.2 Increased effort

After the design of a task is in place, the next step in the process of practicing deliberately is to exert effort into performing the said task. A well-designed practice often automatically demands a higher level of concentration and as a result, performing it requires more effort. Ericsson et al. (1993) theorize that the effort that deliberate practice requires is so exhausting that it limits the amount of useful practice to a maximum of few hours per day. Next, studies of deliberate practice that highlight effortful activities, high concentration, and mental simulation are reviewed.

Effort in music and sports

Effort is a consistent element in deliberate practice studies in the domain of music. The vocal education design described by Rainero (2012), namely the breaking of a vocal piece of music into its three core elements, helps the singer to concentrate on practicing each element separately; this increased focus on practicing was determined to yield more effective singing lessons and faster results. Other studies (e.g. Ericsson et al., 1993; Sloboda et al., 1996) have established that beyond any reasonable doubt, the amount of relevant high-concentration technical practice is key in determining musical expertise. Expert musicians consistently design their daily activities in the way that their high-concentration practice is carried out in the mornings, when the formal effortful practice that is highly relevant for musical achievement can be most effectively performed. When expert violinists were asked to rate the musical activities in terms of relevance for their development, the highest-scoring activities were also the most effortful. The very limited duration of useful deliberate practice hours per day is perceived to the best evidence of the mental effort and concentration it demands, with experienced musicians practicing approximately 1.5 hours at a time.

The relation between design and effort is also evident in sports. The study of Gaelic football players, where expert players practiced the weaker of the two different types of kicks and intermediate players practiced the stronger, the experts rated their practice more physically and mentally effortful than the intermediate players. This seemed to be precisely because the expert players specifically designed their practice to develop their weaker kick. The result was that the accuracy of the expert group developed more and the change was more permanent, indicating that the quality of the experts' practice was higher. (Coughlan et al., 2014.)

Practice activities rated high on concentration are also rated high on relevance to improvement, whether in an individual sport (Hodges & Starkes, 1996) or in a team sport (Lund et al., 2013). Additionally, concentration is found to be an important factor for successful shared deliberate practice in team sports, and the explanation is that the quality of a team practice depends on the level of concentration that each participating player exerts into it. If a player is not fully focused, it has a negative influence to the overall quality of the practice. (Lund et al., 2013.)

The increased effort and the high level of concentration that deliberate practice requires are reported by some researchers to subsequently lower the level of enjoyment and reveal that the motivation for practicing comes wholly from the will to develop. Ericsson et al. (1993, p. 368) state that deliberate

practice is “not inherently enjoyable” because of the high level of effort it requires. Coughlan et al. (2014) support this notion by presenting evidence that shows that in addition to rating their deliberate practice activities more effortful than intermediate players, expert players also rated their practice less enjoyable. In contrast, other research has shown that high-concentration practice can also be highly enjoyable and that the motivation to engage in it can be partly explained by the enjoyment it creates. Hodges and Starkes (1996) found that the same activities that were rated high on relevance and concentration were also rated high on enjoyment, contradicting the original assumption of deliberate practice not being inherently enjoyable. Consistent with this, the findings of Hodges, Kerr, Starkes, Weir, and Nananidou (2004) support the notion that enjoyment is not an important component of deliberate practice. In their view, the level of enjoyment is not useful in determining the most relevant deliberate practice activities.

Effort in professions

The effort element – or its variations – is mentioned here and there in the research of deliberate practice in professions. In Dunn and Shriner’s (1999) study about the teacher activities that would fit the framework of deliberate practice, the most important activities were planning and evaluation. One of the conclusions of their study was that “planning and evaluation activities require effort” (p. 644), indicating that effortful practice is a requisite for development. There are similar indications in medicine, where Duvivier et al. (2011) found that elements of deliberate practice affected positively on medical undergraduate students’ test results and clinical skills. Their analysis of the most relevant activities for improvement in performance produced planning, concentration, and repetition.

Marzano’s (2010) four major components of teaching within the deliberate practice framework include the selection of a teaching strategy. When selecting one specific teaching strategy to work with each year, as opposed to working with a wide array of strategies, a teacher facilitates focus on professional development in that specific area.

Sonnentag and Kleine (2000) found that mental simulation was one of the most widely used deliberate practice activities among insurance agents. The subjects explained that they would for example imagine a difficult situation with a client and explore the different behavioral options

mentally. In the study, approximately one in four agents reported that they used mental simulation regularly to improve competence.

Summary of effort

The relevance of effort, whether physical or mental, to the development of skills is proven by the deliberate practice literature. The effort that is required for deliberate practice is what makes it so exhausting that it cannot be sustained for more than brief periods at a time (e.g. Ericsson et al., 1993; Sloboda et al., 1996). This physical and/or mental exhaustion is one of the key components in determining a truly effortful performance. The other highly important component of effort is the high level of concentration on the task at hand. Concentration is consistently found to be related to reports of improvement (e.g. Duvivier et al., 2011; Hodges & Starkes, 1996; Marzano, 2010; Sloboda et al., 1996).

Adding these two important components of effort to the theoretical framework of this study in Figure 3, the process of explaining the four elements of deliberate practice begins to take shape:

Figure 3. The components of increased effort highlighted.

As a last note on the element of effort, the argument of whether or not the level of enjoyment is a relevant component of deliberate practice is briefly reviewed here. In their foundational study, Ericsson et al. (1993) characterize deliberate practice as not being inherently enjoyable because of the high amounts of effort it requires. While there are results supporting this notion (e.g. Coughlan et al., 2014; Dunn & Shriner, 1999), most of the studies do not talk about enjoyment at all. In fact, a few studies have even produced results against the original notion (e.g. Hodges et al., 2004; Hodges & Starkes, 1996). The opposing group argues that the level of enjoyment is irrelevant in determining the activities that are regarded as deliberate practice.

2.2.3 Frequent repetition

After a task is appropriately designed so that increased effort must be exerted to complete it, frequent repetition is required to master it. Whereas design and effort represent the qualitative aspect of deliberate practice, repetition represents the quantitative side of it. The high amount of practice is one of the most important things that distinguishes expert performers from average performers (e.g. Baker et al., 2005; Sloboda et al., 1996).

Regarding the frequent repetition of tasks, Ericsson et al.'s (1993, p. 366) foundational article famously refers to the "10-year rule" first proposed by Simon and Chase (1973). But the authors also present two additional theoretical components of deliberate practice that can be embedded to the element of frequent repetition: the monotonic benefits assumption and the early engagement hypothesis. This part of the literature review presents research about repetition in music, sports, and professions.

Repetition in music and sports

In their study of chess expertise, Simon and Chase (1973) stated that chess masters are able to memorize specific game patterns after studying the chess board for only seconds, not because they have better memories than novice players, but because they have acquired knowledge of chess piece

positions over a long period of time. The authors conclude that achieving the grandmaster level in chess requires “about a decade’s intense preoccupation with the game” and estimate that grandmasters have studied chess positions for approximately 10,000 to 50,000 hours when they reach the highest level in their field (p. 402).

Other, more recent chess studies have highlighted the importance of the amount of practice as well. The best predictor of current chess ratings is claimed to be the cumulative amount of serious study alone, arguably the chess activity that is most fitting to the theory of deliberate practice. Over a chess player’s career, the amount of serious study alone and serious chess play have a significant effect on the development of skills and acquired performance levels. Cumulative hours of tournament play is viewed as a significant factor for improvement among younger players in particular. Altogether, there seems to be a strong influence by frequent repetition on chess players’ current performance and careers, and studies are supporting the monotonic benefits assumption. There seems to be support for the notion that regardless of the ultimate level of performance, the accumulated amount of deliberate practice has a monotonic relation to the improvement of an individual’s chess skills. (de Bruin, Smits, Rikers, & Schmidt, 2008; Charness et al., 2005.)

Research on the relationship between the amount of practice and expertise is not limited to chess. Hodges and Starkes (1996), studying the amounts and types of practice of international and club-level wrestlers, found that the international wrestlers had accumulated more than 1,000 hours more deliberate practice by the age of 20 than the club-level wrestlers.

Expert ultra-endurance triathletes perform more training than others as well. The more frequent training of experts is due to a more balanced effort management in their practice design, indicating that experts’ practice methods are greater in both quantity and quality. Similarly, the analysis of the practice hours of individual swimmers and triathletes produced results that the accumulated time spent on sport-specific practice highly correlates to the current level of the athletes in triathlon and long-distance swim events. The results highlight the importance of long-term domain-specific deliberate practice across a performer’s career in the development of expertise in that specific domain. (Baker et al., 2005; Hodges et al., 2004.)

In team sports, Helsen et al. (1998) studied the viability of repetition and the deliberate practice theory to football and field hockey. The study reports that both football and field hockey experts start to commit to much more practice beginning around 9 years into their careers than average players. Further, the monotonic benefits assumption seems to hold in terms of time invested in

deliberate practice (both team and individual) resulting in attaining international or national performance level.

The pattern for repetition is the same when it comes to musicians. Studies of music professionals conclude that there is a strong correlation between practice and the acquired level of performance, with high achievers practicing the most. The performers who have reached the highest levels have accumulated far more hours of deliberate practice than those who are at lower categories of competence. The results point toward the validity of the monotonic benefits assumption. (Ericsson et al., 1993; Sloboda et al., 1996.)

The study of expertise in sight-reading, by Lehmann and Ericsson (1996), states that differences between the performances of participant pianists were attributed to the participants' training backgrounds, including the accumulated amount of practice spent on relevant activities. Along with "appropriate self-imposed challenges", the authors conclude that individual differences in sight-reading skills seem to result from "deliberate long-term involvement in relevant domain-related activities" (p. 25). They specifically point out that the results are contrasted with the belief of expertise reflecting innate talent.

In contrast to repetition and the monotonic benefits assumption, very few studies mention the early engagement hypothesis and the research on the topic is conflicting. Testing the early engagement in football, Ford et al. (2009) examined differences in early participation between players who progressed to professional status and players who did not. They presented findings showing that between 6 and 12 years of age, elite football players engaged in more deliberate practice and play activities than less-successful players, stating that the results seem to support the early engagement hypothesis of deliberate practice. On the contrary, Baker et al. (2005) note that while the parts of the deliberate practice framework related to repetition and design hold true for ultra-endurance triathlon training, no evidence was found that early specialization would be required to become an expert in this particular sport. Other studies on repetition scarcely mention the early engagement hypothesis directly, and instead only talk about the accumulation of practice regardless of starting age.

Repetition in professions

In the professional context, the importance of repetition is not unambiguous. When Sonnentag and Kleine (2000) conducted their study of insurance agents' performance, they tested two hypotheses: that deliberate practice is positively related to improvement in work performance, and that both currently performed and accumulated deliberate practice contribute to improvement at work. The results imply that repeating deliberate practice activities results in a higher level of performance, but the nature and importance of those activities vary according to individuals' perceptions of relevance and suitability for improvement.

Additionally, years of experience as an insurance agent was not a significant predictor of performance, whereas the number of cases handled per day was. Similarly, the cumulative amount of time spent on deliberate practice activities was not as significant a predictor of expertise as the current amount of time spent on those activities was. The argument for these results is that unlike in sports and music, the skills and knowledge required at workplace change as new products, procedures, and technologies become available – previously learned information and skills can become obsolete. All in all, the evidence suggests that relevant experience combined with current deliberate practice contributes toward expertise at work. (Sonnentag & Kleine, 2000.)

In medicine, repetition is found to be among the most important factors which affect positively on medical undergraduate students' test results and clinical skills. The importance of repetition is reported to be at its highest among first-year students and decrease over time, which suggests that repetition in medicine is at its most useful when acquiring basic skills. (Duvivier et al., 2011.)

Summary of repetition

The repeated performance of a task highly correlates to the acquisition of expertise in that task. In the context of deliberate practice, the element of repetition consists of the accumulation of practice hours (e.g. Charness et al., 2005; Sonnentag & Kleine, 2000) and the long-term involvement in the domain (e.g. Hodges et al., 2004; Lehmann & Ericsson, 1996). Going into more detail, Simon and Chase (1973) and Ericsson et al. (1993) talk about more than 10,000 practice hours and more than

10 years of preoccupation with the topic. Specific to professions, however, the importance of repetition is not clear, as new technologies and products are constantly introduced and procedures evolve accordingly.

When all of the above literature on repetition is thus summarized, it can be transferred to Figure 4, which builds the theoretical framework of this study:

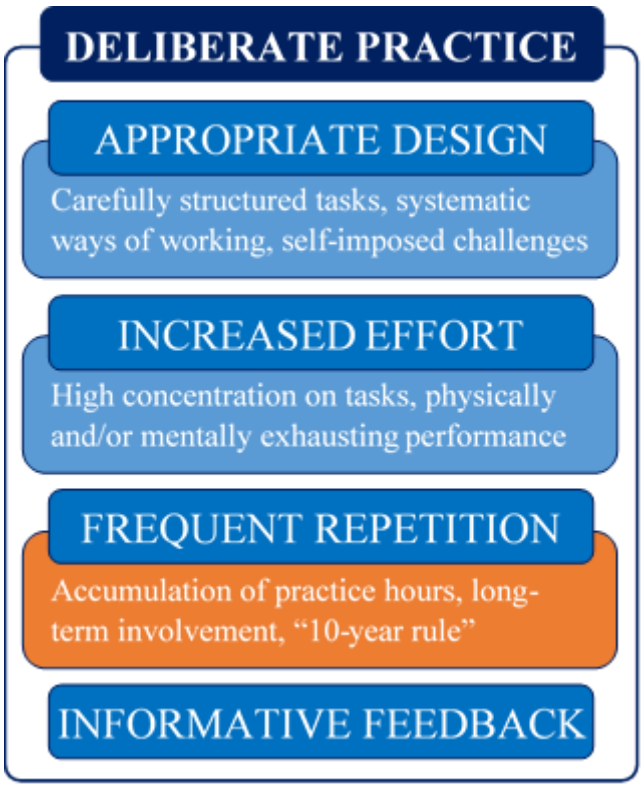

Figure 4. The components of frequent repetition highlighted.

Of the two additional theoretical components of deliberate practice that are directly related to the element of frequent repetition, namely the monotonic benefits assumption and the early engagement hypothesis, the literature is more coherent on the former. The monotonic benefits assumption is validated by multiple studies (e.g. de Bruin et al., 2008; Helsen et al., 1998), while studies of the early engagement hypothesis are rare. Ford et al. (2009) produce results in favor of it, while Baker et al. (2005) argue that it is not required.

2.2.4 Informative feedback

When a skill is practiced deliberately, informative feedback should be immediately available. This final element of deliberate practice requires the presence of a person with adequate knowledge of the task that the subject is performing and the skill that he is trying to acquire. The person can be for example a teacher, a coach, a supervisor, or a mentor, depending on the domain.

If there is no evaluation of performance in place, the design of a task can be inappropriate and the exerted effort and frequent repetition could be in vain. Ericsson et al. (1993) explain that in assuring effective learning, the ideal case is that the performer receives explicit instructions on how to perform a task and is supervised by someone who diagnoses errors, provides informative feedback, and suggests corrective adjustments. They claim that the absence of feedback leads to minimal improvements and impossibilities to learn efficiently. However, for some reason it is difficult to locate other mentions of the importance of feedback in the deliberate practice literature.

Feedback in music and sports

In studying the development of expertise among musicians, there are results that show that the individuals who tend to spend the most time with a teacher per week also engage in formal practice the most. These musicians subsequently reach the highest levels of competence, highlighting the role of pedagogically structured practice and the presence of a person providing feedback. (Sloboda et al., 1996.)

In the sight-reading of music, it is important to prepare for unknown situations. The main method for this preparation for the unknown by the musicians seems to be the simulation of situations which provide appropriate challenges for them, such as purposefully improvising a part of a musical piece that they are practicing. These challenging situations in turn create opportunities for the musicians to receive feedback and subsequently make adjustments to their performances. (Lehmann & Ericsson, 1996.)

Coughlan et al. (2014) produced study results which show that expert Gaelic football players, when practicing their kicking abilities, planned their next kick more than intermediate players, suggesting the more effective use of available feedback. The improvement in their kicking was proved to be more permanent.

In team sports, shared deliberate practice and the characteristics of it are very relevant to the element of feedback. In the study of an elite handball team, one of the two key elements that were found was feedback from coaches and role-models. Role-models in this context are the more experienced players of a team who provide guidance and feedback to others, and part of the coach's job is to make the players aware of the skills that need to be improved. According to the authors, the social relationships between the parties have an influence on the effectiveness of the feedback, and feedback and role modeling also mediate the cognitive skills of the team. (Lund et al., 2013.)

Feedback in professions

Studies on professional development indicate that asking for feedback has been identified as being a widely used technique for development in the workplace. In addition, consulting colleagues and concluding and assessing afterwards are carried out on a regular basis and with the goal of improvement in mind, constituting as possible deliberate practice activities. There are also indications that evaluation and planning activities are perceived to be the most fitting for the theoretical framework of deliberate practice, and most importantly, evaluation activities, both formal and informal, are found to provide opportunities for new learning and self-improvement in the professional context. (Dunn & Shriner, 1999; Sonnentag & Kleine, 2000.)

Marzano (2010) explains that when applying the deliberate practice framework to teaching, the measurement of progress in the selected areas of development requires an evaluation rubric for self-monitoring and supervisory observation. Moreover, Marzano highlights giving and receiving feedback; Opportunities for the observation of colleagues should be available to teachers for the purpose of seeing other teaching strategies being implemented and to be able to compare them with selected strategies. Activities for discussion of effective teaching methods should also be arranged and proper technology for asynchronous learning utilized.

In medicine, qualitative feedback, which is a required and important element of deliberate practice, is said to be difficult to obtain. In addition, there might be differences with regard to motivation for competence improvement and learning opportunities between residents (postgraduate medical trainees) and experienced medical professionals. Facing patient problems, the residents ask for advice and consultation more often, while the experienced group relies more on literature search. (Ericsson, 2004; van de Wiel & Van den Bossche, 2012.)

Summary of feedback

The element that ties the theoretical framework together is informative feedback. When deliberate practice is properly performed through frequent repetition, feedback is utilized to make adjustments to the design of the task and the performance itself (e.g. Coughlan et al., 2014; Lehmann & Ericsson, 1996). Thus, feedback makes it possible to fine-tune the process little by little towards the ideal.

The presence of a teacher or a coach is required to reach an expert level in music and sports, and it is the duty of him to provide feedback to the performer (Lund et al., 2013; Sloboda et al., 1996). Conversely, feedback in the professional context seems to depend more on the recipient actively seeking for it, implying that receiving feedback is a self-imposed activity. Asking for advice and consulting others are the techniques mentioned to be in use in the workplace (Sonnentag & Kleine, 2000: van de Wiel & Van den Bossche, 2012). Finally, it is worth noting that both formal and informal evaluation should be utilized (Dunn & Shriner, 1999; Marzano, 2010).

To complete the visualization of the preliminary theoretical framework for deliberate practice that the literature has provided, the components of the element of feedback are added in Figure 5:

Figure 5. The components of informative feedback highlighted.

2.3 Criticism against deliberate practice

Before discussing the theoretical framework for the study, some of the arguments made against the importance of deliberate practice are briefly introduced. Critics say that deliberate practice is not an adequate explanation for differences in expertise. Although findings in some domains show that it accounts for a large proportion of the variance between individuals, it is shown that similar amounts of deliberate practice can result in some individuals benefiting more from it than others. From this, it is concluded that deliberate practice alone is not a sufficient explanation for individual differences. (e.g. Campitelli & Gobet, 2011; Meinz & Hambrick, 2010.)

Similar conclusions are drawn from meta-analyzing the deliberate practice literature. The results of these analyses indicate that deliberate practice does not explain all, or even most, of the variance in performance between individuals. Macnamara, Hambrick, and Oswald (2014, p. 1615) claim that

the “amount of deliberate practice – although unquestionably important as a predictor of individual differences in performance from both a statistical and a practical perspective – is not as important as Ericsson and his colleagues have argued”. Empirical evidence suggests that while it explains a considerable amount of the variance in performance, it still accounts for less than a quarter of it in most of the widely studied domains. In business, it is stated to have only a 1% impact in the variance of development of professional skills. (Hambrick et al., 2014; Macnamara et al., 2014.)

All opposing research concludes that while deliberate practice is considered somewhat necessary for achieving top-level performance, it is argued that its significance might be overstated (Campitelli & Gobet, 2011; Hambrick et al., 2014; Macnamara et al., 2014; Meinz & Hambrick, 2010). Working memory capacity, the ability to maintain task-relevant information while in a highly active state, plays a significant role in expert performance. As working memory capacity is a hereditary and highly stable ability, it is theorized that it may limit the ultimate level of performance that can be attained regardless of the amount of deliberate practice, questioning the framework for it. Some of the alternative explanations for expertise include general cognitive abilities, starting at a young age, personality, genes, and intelligence.

Finally, Ackerman (2014) claims that extreme opposite positions in the discussion on the sources of expert performance, in other words hereditary talent and deliberate practice, are equally nonsensical. In attempting to build an integrative view, he concludes that a combination of genetic and environmental factors and their interaction can explain individual differences in expertise. Moreover, he argues that although necessary, deliberate practice on its own not a sufficient explanation for expertise and that talent does matter in its development.

2.4 Theoretical framework of the study

In Figure 6, the elements of deliberate practice are visualized based on the literature review. Alongside are the antecedents which inspire the research for the theory and the hypothesized outcomes of engaging in deliberate practice activities. The presented preliminary framework is a synthesis of the existing research.

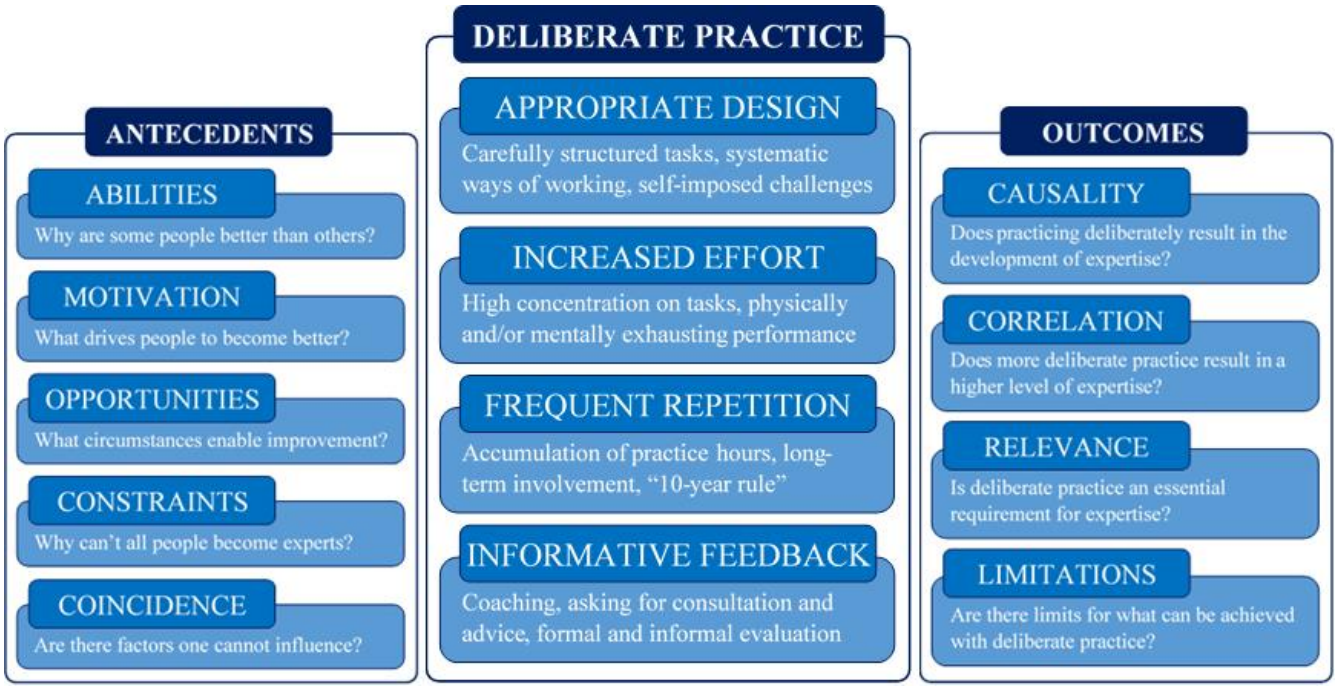

Figure 6. The preliminary theoretical framework of the study.

The antecedents represent the questions and subsequent assumptions that are the starting point for the deliberate practice research. The first assumption is that some people are better than others. But only a handful of abilities are universally accepted as hereditary, genetic, or innate – these include height, beneficial in sports such as basketball and high jumping, and perfect pitch, the ability to recognize a music note by its pitch (Ericsson et al., 1993). Clearly, something else must facilitate expertise.

What drives people to become better, what are the circumstances enabling improvement, and why are there so few experts? Practicing hard is generally not enjoyable and does not provide immediate

rewards, so there must be some other motivation behind the willingness to practice, such as the sense of achievement or purpose. Opportunities and constraints include factors such as financial resources, access to teaching, and parental support. Motivation can be an opportunity or a constraint as well.

Finally, what is the extent to which coincidence plays a part in the development of expertise? These questions are important in the efforts of trying to create a general theory of expertise. However, this thesis does not try to answer to the questions presented by the antecedents, nor does this thesis investigate the outcomes of deliberate practice, such as causality (see e.g. Liou et al., 2013; Sonnentag & Kleine, 2000), correlation (see e.g. de Bruin et al., 2008; Ford et al., 2009), relevance (see e.g. Ericsson, 2014; Macnamara et al., 2014), or limitations. The focus is simply on the elements of deliberate practice, and particularly in finding out how managers utilize them in their daily work at expert organizations, as stipulated by the research question in Chapter 1.

3 METHODOLOGY

This chapter presents the research methodology that was used for this study. The first section explains the design for the research, including the argumentation for selecting the qualitative case study method and the description of the systematic combining process. The second section discusses the sample for this study, in particular the theoretical sampling method. It also introduces the criteria for selecting the participants for the study as well as the organizations that they represented. Then, the data collection method is presented in the third section. The data for this study was gathered via in-depth, face-to-face, semi-structured interviews, which followed the general outlines of a preplanned interview guide based on the preliminary theoretical framework. Information about the interviews as well as about the individuals who participated in this study is summarized. Finally, in the fourth section, the process of analyzing the data is discussed and the particulars of within-case analysis and cross-case analysis are explained.

3.1 Research design

Qualitative studies about deliberate practice in the domain of professions are rare, mainly because there is an effort to quantify it (e.g. McEdwards, 2014) and the use of quantitative questionnaires is popular (e.g. Duvivier et al., 2011; Liou et al., 2013). The research questions of the studies are also quantitative in nature, often concerning the amount of time spent on deliberate practice (e.g. Sonnentag & Kleine, 2000). Based on the research question of this study, which requires a qualitative in-depth inquiry into the work habits of business professionals, the qualitative method, and in particular the case study method was chosen. The characteristic which distinguishes the case study from other methods of research is that it attempts to examine a phenomenon in its real-life context (Yin, 1981).

Dubois and Gadde (2002, p. 555) explain that case studies "provide unique means of developing theory by utilizing in-depth insights of empirical phenomena and their contexts", stressing theory development instead of theory generation. In contrast to the deductive approach, which usually tests a current theory, and the inductive approach, which tries to generate theory from data, Dubois and Gadde describe the abductive approach, and in particular a process called systematic combining. In

systematic combining, the researcher is constantly going back and forth between the preliminary theoretical framework and empirical observations, which results in the framework evolving over time according to the findings and analysis. Systematic combining enables the continuous confrontation of theory and the real world throughout the research process, and it focuses on the refinement and development of existing theories. Compared to deductive and inductive approaches, the main difference of the abductive approach is that the theoretical framework is modified as a result of empirical findings and analysis. This study approaches empirical research in the abductive way.

According to Eisenhardt (1989), the case study method is a research strategy that can be used both when focusing on a single case and when trying to understand multiple cases within single settings. In this study, multiple cases were used, as it enabled the comparisons of deliberate practice activities between business professionals across expert organizations. These comparisons were made precisely in order to develop the theory of deliberate practice in the context of business by using the method of systematic combining. Eriksson and Kovalainen (2008) state that when conducting a multiple-case case study research, the issues and questions to be studied are often predetermined and the researcher has a specific research interest in mind. They review two different types of case study research methods, intensive and extensive. While intensive case studies focus on understanding a unique case, extensive case study researches multiple cases and tries to find common patterns in a specific context. The point of the extensive case study method is not to focus on individuals per se, but rather to use a number of individuals to explore a phenomenon. Because of this reason, and also because it fits with Dubois and Gadde's (2002) descriptions of refining an existing theory, the extensive case study method was chosen for this study.

The most conventional and popular research method in business management studies is an interview-based multiple-case case study, and in-depth interviews are the most often-used primary source of data in business research (Eriksson & Kovalainen, 2008; Piekkari, Welch, & Paavilainen, 2009). According to Kvale (1996, p. 124), the purpose of a qualitative research interview is to obtain "qualitative descriptions of the life world of the subject with respect to interpretation of their meaning." This study used in-depth, qualitative interviews for data collection, as the research design is of the nature that requires interaction with participants to provide detailed insights of their workdays and working habits; for example, descriptions of performed activities and their perceived importance for development at workplace are hard to find from other data sources. Additionally, as the deliberate practice literature is scarce in the domain of business, in-depth interviews can better

provide a platform on which the interviewees can freely discuss their insights of the topic and provide answers to questions that the interviewer might not have even thought of asking.

3.2 Sample

In qualitative research, when the sample size is much smaller than in quantitative research, it is crucial that the chosen sample represents the topic of research well (Eriksson & Kovalainen, 2008). A random selection of cases is neither necessary nor even advisable, when the objective is to extend an existing theory and when the total number of cases included in the study is small. Instead, theoretical sampling, where the cases are chosen for theoretical reasons, is encouraged – the cases should be chosen based on a replication logic rather than sampling logic. (Eisenhardt, 1989; Seawright & Gerring, 2008.)

Theoretical sampling was used for this study, and there were two absolute criteria for participants: In order to be considered business professionals, it was determined that the participants must be employed by an expert organization and that they must have proceeded in their careers to at least the position of manager. According to these criteria, an e-mail message was sent to contact persons in the HR departments of applicable organizations, describing the study and inquiring for possibilities of their employees to participate in it. The aim was to have participants from four different organizations, and between 2-3 participants per organization were requested in the e-mail message.

The number of business professionals that met the criteria and were willing to take part in this study was nine; five managers, three directors, and one chief executive officer (CEO). Their average age was 35 years and the experience that they had of working in expert organizations was between 6 and 23 years, averaging 10 years. The nationality of all nine participants was Finnish, and consequently all interviews were conducted in Finnish. Additional information about the participants is presented in Table 2 (in subchapter 3.3) and in Table 3 (in Chapter 4).

The participants were employed by four different expert organizations in the professional services and management consulting industries. Three of the organizations operate globally, whereas one operates only in Finland. Two organizations can be considered large employers in Finland, one an average-sized employer, and one a small-sized employer. The idea was to find expert organizations

of different size for the study in order to see whether it would affect the answers to interview questions. During data analysis, no significant differences in answers could be attributed to the size of the organization. Table 1 presents a summary of the organizations which employed the participants for this study.

Table 1. Summary of the participant organizations.

Company	**Area**	**Services**	**In Finland**	**For this study**
Company 1	Global	Assurance, tax, advisory	500 – 1.000 employees	3 participants
Company 2	Global	Assurance, tax, advisory	500 – 1.000 employees	3 participants
Company 3	Finland	Management consulting	20 – 50 employees	2 participants
Company 4	Global	Assurance, tax, advisory	50 – 100 employees	1 participant

Eisenhardt (1989) mentions that the number of cases in a study should be between four and ten, because fewer than four provide little empirical grounding and with more than ten the data can become too complex. Dubois and Gadde (2002) argue that increasing the number of cases in a qualitative study and relying on a notion of statistical significance might bring about some disadvantages in terms of the depth of the research. Eriksson and Kovalainen (2008) state that there are no specific rules regarding the number of cases in a study and that the number depends on the aims of the study and the research questions. As the theoretical sampling method produced nine participants from four organizations that were judged to represent the research topic well, and as there were also a lot of similarities in the data gathered from the participants despite open-ended interview questions, it was established that further search for additional participants or more data was not necessary.

3.3 Data collection and analysis

According to Eriksson and Kovalainen (2008), in qualitative interviewing, most often the interviewer prepares at least some of the questions beforehand. The interviewer also focuses on the particular issues that are related to the topic of the research and asks questions that are typically

open-ended enough for the interviewee to have opportunities to elaborate on the subject. The interviews conducted for this research were semi-structured, following the general outlines of a preplanned interview guide. Questions were formulated and grouped together according to the elements of deliberate practice presented in the preliminary theoretical framework, while also providing room for elaboration and discussion. Eriksson and Kovalainen argue that the semi-structured interview approach presents some problems, such as the eventual comparison of data from the interviews, but it also has the advantage of providing an informal tone while still having a systematic setting.

Kvale (1996, p. 125) describes the research interview as human interaction of a particular form - "neither as anonymous and neutral as when a subject responds to a survey questionnaire, nor as personal and emotional as a therapeutic interview." He explains that building trust is the responsibility of the interviewer and that the goal is to create an atmosphere in which interviewees feel safe to express themselves freely. During this study, setting the interview stage properly proved to be easy; the interviewees were already very much used to working in various social situations because of their professions. In addition, all interviews began with a few warm-up questions, such as 'Tell me about your typical day at work', in order to give the interviewees an opportunity to adjust to the interview situation. Another purpose of the warm-up questions was for the interviewer to gain an understanding of the work of the interviewees and show interest towards them – to establish contact with the interviewees. Finally, the few warm-up questions helped in gaining background information against which the relevance of other preplanned questions could be judged as the interviews progressed.

After the warm-up questions, the interviews proceeded along the lines of the preplanned interview guide. The interview guide was designed to consist of main questions which were asked in all interviews, and follow-up questions which were asked whenever deemed necessary. Examples of the main questions include questions such as 'What kinds of tasks require a lot of concentration?' and 'What is the role of feedback in your work?'. The follow-up questions were more specific, such as 'What do you do when you have to concentrate a lot?' and 'Do you usually get positive, negative, constructive, or informative feedback?'. These were asked if an interviewee's response to a main question did not yield specific enough information of the theme in question, or if some clarification was needed. On average, at least some follow-up questions were asked in connection to approximately two thirds of the main questions. For the full interview guide, see the appendix at the end of this thesis.

All interviews were conducted face-to-face in Finnish, the mother tongue of both the interviewer and all of the participating interviewees. Eight interviews were conducted in Helsinki, Finland and one in Tampere, Finland. The interviews took place between February and May of 2016, and with one exception, their duration was between 45 and 59 minutes. To enable a thorough analysis, the interviews were recorded with an audio recorder and transcribed word-for-word afterwards, anonymously in a way that the transcriptions protect the identities of the interviewees and the organizations they represented. Table 2 presents relevant information about the interviewees and the conducted interviews.

Table 2. Summary of the interviewees and interviews.

Position	**Department**	**Company**	**Interview date**	**Length**
Director	Consulting	Company 1	February 24th	54 minutes
Manager	Transaction Services	Company 1	February 26th	53 minutes
Manager	Audit	Company 2	February 29th	46 minutes
Director	Consulting	Company 3	March 16th	56 minutes
Manager	Sustainability & Climate Change	Company 1	March 24th	73 minutes
Director	Consulting	Company 3	April 1st	52 minutes
Manager	Corporate Finance	Company 2	April 1st	46 minutes
Manager	Audit	Company 2	April 28th	59 minutes
CEO	-	Company 4	May 31st	45 minutes

Ericsson and Kovalainen (2008) state that the analysis of data for case studies most often begins with the separate analysis of each individual case, called within-case analysis. They explain that in addition to the basic analysis of the data, the within-case analysis often includes drafting a general description of the case, structured in chronological or thematic order, and for the purpose of constructing meaning by linking empirical patterns to each other. For this study, the data analysis was begun this way. In the within-case phase, the transcribed interviews were first analyzed separately and the important points of each interview were highlighted. The order of analysis was identical to the order of the interviews (see Table 2), with no overlapping; the first interview was analyzed from beginning to end before the analysis of the second interview began, and so forth. After conducting the interviews, transcribing them word-for-word, and analyzing them separately to find out which elements of deliberate practice each interviewee perceived to be important in their

daily work, the result was a ‘laundry list’ of keywords and themes related to deliberate practice in expert organizations. With this list, it was possible to proceed to the second phase of analyzing the data.

When a multiple-case case study is conducted, the next phase is called the cross-case analysis: It provides a comparison across all of the studied cases and also contrasts them with existing theory (Eriksson & Kovalainen, 2008). During the cross-case phase in this study, each interview question was analyzed separately; this was done by rearranging the transcribed interviews thematically so that all nine answers to one interview question at a time were placed successively. In other words, in the cross-case phase answers were grouped together according to the question, whereas during the within-case phase answers were grouped together according to the interviewee. Keywords and important concepts that were found in the within-case analysis, such as ‘calendar’, ‘unfamiliar task’, and ‘peer support’, were utilized in searching for common themes in the answers during the cross-case phases.

The two-part analysis enabled a systematic and careful examination of data, which in turn helped the contrasting of findings with the theory, refining the theoretical framework during the process. For example, the within-case analysis produced indications that the interviewees regarded the calendar as an important tool in designing their work activities. Awareness of this made it possible to pay increased attention to mentions of calendars during the cross-case analysis; to calculate how many of the interviewees specifically mentioned them and to infer what the overall opinion of them was. It was concluded that they were indeed of perceived importance, and this finding was contrasted with the previous deliberate practice research, in particular with research regarding the element of design. As a result, one of the components of the element of design was modified in the way that the significance of calendars in designing work activities was taken into account.

To summarize, the within-case phase resulted in finding keywords and important themes, which could be utilized in the cross-case phase. The cross-case phase in turn produced indications of the perceived importance of each of the deliberate practice elements and made comparison between the interviews possible. The cross-case analysis also facilitated the comparison of the findings with the existing deliberate practice literature and the preliminary theoretical framework of this study. These comparisons resulted in connections between theory and the real world in the way that the framework evolved throughout the study, according to the process of systematic combining as described by Dubois and Gadde (2002). The modified theoretical framework, along with discussion of the modifications, is presented in Chapter 6.

3.4 Validity and reliability

The quality of the research design in a case study can be judged by examining its validity, which can be divided into construct validity, internal validity, and external validity. Construct validity is gained by making sure that the right operational measures are implemented for the concepts being studied (Yin, 2003). In this study, in-depth interviews were defined as the most appropriate form of data collection, interview questions were formed based on the literature review in order to make sure that research is properly focused, and the recording and transcribing of the interviews word-for-word improved the trustworthiness of results. Construct validity for this study is also enhanced by conducting a multiple-case research instead of a single-case research – using multiple sources, or more specifically, "multiple copies of one type of source", the type of source being interviews, is a mode of triangulation and a way to improve the credibility of the study (Lincoln & Guba, 1985, p. 305).

According to Yin (2003), internal validity needs to be accounted for only in causal or explanatory case studies, where the research is concerned with establishing a causal relationship between events. As this study does not investigate or try to explain any causal relationships, internal validity is not applicable here. External validity, or the generalization of the findings of a study beyond the specified cases, is achieved in multiple-case studies by using the replication logic: Case studies do not rely on statistical generalization, and rather than a sampling logic, this study uses theoretical sampling where cases are selected based on a replication logic, which means that the researcher considers multiple cases as multiple experiments (Seawright & Gerring, 2008; Yin, 2003). The result is that while the findings are not representative of a larger population as in random sampling, it is reasonable to state that when multiple cases have produced similar findings, these findings can be used to provide strong support to the underlying theory (Yin, 2003). In this study, the similarities in answers to interview questions are regarded as evidence of the external validity of the research, and the results can arguably be at least partially generalized within the context of expert organizations operating in Finland.

In addition to validity, the quality of a research design can also be judged by examining its reliability. According to Yin (2003), reliability means that when a particular study is repeated (not replicated) by another researcher, the researcher makes the same findings and arrives in the same conclusions. Yin expresses that one of the most important ways of ensuring the reliability of the

study is to document the research procedures, for example the data collection methods. This study gains reliability by explaining the research design and the methodological choices, the sampling procedure and criteria, and the data collection and analysis in detail. In addition, the reliability and accuracy of findings is highlighted by the extensive use of direct quotes in presenting them – direct quotes eliminate the possibilities of erroneous interpretations or misunderstandings by the researcher. Finally, the interview guide that was used in the interviews is presented as an appendix, also enhancing the reliability of the study.

3.5 Limitations of the study

The empirical part of this study consisted of nine qualitative interviews, each regarded as a case in a multiple-case study. While the number of cases can arguably be considered sufficient (see e.g. Eisenhardt, 1989) – especially as the interviews provided similar answers in key topics despite the open-endedness of questions – it should be kept in mind, in line with the previous subchapter, that the context of the study is very specific and the results are not fully generalizable outside Finland and expert organizations. The amount of interviews is a limiting factor for the statistical significance of the results, but the key findings of the study and the answer to the research question can nevertheless be considered trustworthy and reproducible within the same settings. In any case, this study adds to the academic knowledge of deliberate practice in the professional context, an area of deliberate practice where previous research is scarce.

In evaluating the limitations of this study, it must also be taken into account that the applicability of deliberate practice to the work context is very different than its applicability to sports or music. Sports and music are almost always practiced with the express goal of becoming better in a particular skill, whereas work is more than often performed not for the purpose of becoming an expert, but for the financial compensation provided in return. According to Ericsson et al. (1993), measuring the level of development is much simpler in sports, where results are easily quantified and previous data is available, than in a corporate environment where multiple factors, even chance, can play a part in the career development of an individual. The somewhat experimental nature of applying the deliberate practice framework to business, combined with the scarcity of previous research, resulted in a conscious effort of avoiding complex research problems. As an example, searching for a causal relationship between engaging in deliberate practice and the career

advancement of an employee would require a longitudinal and more advanced investigation of the phenomenon. The simplicity of the research question, although limiting the scope of the study, nevertheless enhances the trustworthiness of this study.

4 FINDINGS

This chapter presents the findings of the nine qualitative interviews that were conducted. The structure of the chapter generally follows the order of the questions in the interview guide. Answers to questions about design and effort are introduced first, and these are followed by answers to questions about repetition and feedback. The final part of Chapter 4 presents descriptions of the interviewees' ideal projects and their opinions on how expertise could be measured in business.

4.1 Design

The first part of the interviews focused on how the participants design their activities at work. An appropriate design includes carefully structured tasks and systematic ways of working, so questions about the planning of activities and the approach to new tasks were asked. Also, the views of the interviewees on how planning affects their work were collected as self-reflections of the importance of design for expertise development in the field of business.

The tools that the interviewees identified as being important for their daily planning the most were calendars and to-do lists; they are said to form the basic structure for workdays. The interviewees also explained that their work is so hectic and changes happen so frequently that prioritizing tasks is an essential way of planning the activities at work. Performing new and challenging tasks is considered crucial in learning and the development of skills, so they try to dedicate time for it.

For seven interviewees, design has a positive effect on the quality of work and on the ability to concentrate. According to them, the important thing is to 'work smarter, not harder'. This means doing the right things at the right time, thinking before acting, delegating certain tasks to others, and not trying to do everything at once.

4.1.1 Calendars and to-do lists

In the interviews, one of the two most commonly cited tools for planning was the calendar; six business professionals talked about it. Customer meetings usually form the basic structure in the interviewees' schedules, and other important supporting activities are then planned and scheduled in interaction with the agreed meetings; this results in an overview of the upcoming few weeks or month. In addition, six of the interviewees said that they direct their own daily activities by creating and utilizing multiple to-do lists. They write down – on physical paper – things that they would like to achieve or focus on, as this helps them to keep their minds on the essential and not forget anything important, which is not easy when the schedule can be hectic and different stimuli constantly show up. All nine interviewees mentioned at least one of the two planning tools.

> *"I keep an old-fashioned notepad with me, where I can write down for example ten tasks that I would like to complete today, and then I cross off them as I go. This is my way of navigating through the day."* (CEO, Company 4.)

Typically, surprising situations are not uncommon, unexpected circumstances are inherent to the interviewees' jobs, and changes to the schedule are very regular; detailed planning more than a day or two ahead is difficult. (The exception confirming the rule is auditing, where days can sometimes be fully planned two months ahead.) The interviewees also pointed out that the work becomes more complicated as one becomes more senior. The fluctuation around the task list increases, so it might not be feasible to try to think about what to do on a certain day next week, because it is likely that plans will change. Three interviewees said that they like to construct the next week's overall plan on Sundays and see what the most important things coming up are, but one stated that if he would always make complete plans for next week, the plans could never be fully applied. The planning process of a director in management consulting is presented as an example of scheduling in one of the more hectic service lines in expert organizations:

> *"Projects have workshops with customers, and they have to be scheduled a month or two beforehand, so these get locked in place first. Then I try to place a reasonable amount of sales meetings and sales visits in between, and maybe some feedback discussions related to some projects. I have to agree to customer meetings early because customers schedule their calendars weeks or months ahead. After this I can start planning my weekly schedule. Typically, I reserve some time for preparation meetings, for example if I have a customer*

meeting in two weeks' time, I make sure that I have three meetings with my team before that. After all this is done, I am still left with a few holes in my calendar, so I use them to plan a day or two ahead and reserve my own time for some smaller tasks I can work on for a couple of hours at a time. This is the only way to get things done, because otherwise someone else reserves my time." (Director, Company 1.)

The interviewees explained that some of the larger tasks can be planned on a week-specific level, but mostly the detailed planning happens on a daily basis. This means that they create their to-do lists in the morning or previous evening for the upcoming day only. By proper planning, one can make the next day a bit easier.

"To finish off the day, I think a little bit about what to do tomorrow. And rather often I do the things that are required to be able to easily get going again in the next morning. For example, if I have to be in contact with a customer in order to proceed in a task, I will handle it, say, between 2 p.m. and 4 p.m., so that I will have stuff to do in the following morning." (Manager 3, Company 2.)

When asked about whether they have always worked in a systematic way, five of the interviewees emphasized that they have always had very analytic personalities or elaborated that they like to really think all things through beforehand. Three of these interviewees also stated that sometimes they might even be a bit too analytic and detail-oriented, as there are frequent surprises at work one cannot influence and the calendar changes all the time regardless of one's own plans. One pointed out that the amount of planning depends on the project and the time of the year, with early spring being the busiest and thus highlighting the importance of designing tasks and days properly.

"In my opinion, I have always had quite a systematic way of working, and I have noticed that it has been a strength in this kind of an organization. And I have benefited from thinking beforehand and prioritizing." (Manager 1, Company 2.)

Two interviewees explained that they have developed a more systematic way of working in the recent years. As they have ascended the corporate ladder and got promoted, their roles have fundamentally changed. In order to adapt to the increased amount of responsibilities, it has been necessary for them to learn time-management to avoid constantly working overtime.

"It has become more systematic. Because in the expert organization, your role changes in such a way that in the beginning, the role is to be a member of a project team and to

participate in one project at a time. And you are under the project manager's supervision and he is the one planning and guiding your work activities, what to do today and this week and so on. But from the manager level onwards and especially at the director level, you can have multiple projects where you are at least partially involved. And the work is more independent and you also have to manage your customer relations. So you start to drive your work more independently and thus you have to plan your activities."
(Director 1, Company 3.)

4.1.2 Prioritizing and performing new tasks

Besides calendars and to-do lists, prioritizing is another important planning activity identified by the business professionals. The first kind of prioritizing is according to the daily and weekly to-do lists: The interviewees stated that they prioritize tasks based on an estimation of what happens in the near future, as dictated by their calendars and the deadlines for projects. Projects always have predesigned timelines and scopes and previous project work experience helps the planning of activities.

> *"I know what my deadline is in a project and I know what still needs to be done. Usually then, I think to myself 'I will do this tomorrow' and so on. And I know how long tasks will take."* (Manager 2, Company 2.)

> *"Especially when I do project work, I know quite well what needs to be done and when, because they usually have very tight schedules. When to conduct a certain interview or something, so that we can report on time. I know what happens or should happen tomorrow pretty well."* (Manager 1, Company 1.)

The calendar presents the general guidelines for working, and a certain priority list is created around it. When there is a continuous flow of different distractions, such as calls, emails, and colleagues seeking advice, differentiating the urgent from the less urgent will get one far. One example of the ways of doing this is to determine the 'must-do' tasks in the morning, prioritize them, and then see what the situation is in the afternoon for the rest of the tasks. The order of priority for tasks can have a significant influence on the planning of work activities of business professionals.

> *"I have five tasks that I have to do this week. Two of them are customer projects, two are related to sales support, and then there is an internal meeting. I will probably have to prioritize the sales support tasks, because our partners have already started to reserve times for customer meetings, and I do not want my material to not be ready when we go there. But I have to balance this with the customer projects, and now the deadlines for them will stretch a bit, but this is the sort of internal prioritizing that I have to do every day. And it dictates my work activities quite powerfully."* (Manager 1, Company 2.)

One of the interviewees stated that when he is committed to delivering something, prioritizing does not mean that he can deliver something late or leave less important things undone – when plans change, it usually means more work and longer days. But even if the task list for an employee in an expert organization seems to constantly change, the interviewees assure that there is a certain structure in the seemingly chaotic environment. An expert is able to navigate through that disorder, find the important things, and prioritize them to create order.

> *"Structure does exist in this field, but in this work you have to flexible in terms of design. You have to stay on top of the work in a way. Even if it seems chaotic from the outside, there is a certain structure, which spells 'these things have to happen in order for us to get there'."* (Manager 2, Company 2.)

The second way of prioritizing tasks is according to their importance for personal development. The interviewees are able to achieve development in their skills when they face something they have no previous experience of. Whether it is a new task, a new type of analysis, a new area of business, or a new role, they learn the most when at least some aspect of their work is completely new, so they try to prioritize new things over familiar ones.

For four of the nine interviewees, the difference between how they approach new tasks and familiar tasks is that when a task is familiar to them, they in fact try to avoid doing it themselves at all. The main reasoning for this behavior is that when they delegate familiar tasks for others to perform, the interviewees themselves will have more time for performing the unfamiliar and more difficult tasks that contribute to their own development. At the same time, other employees get to learn tasks that are new to them and develop as well. And in a way, trying to avoid performing familiar tasks is also a method of ensuring the high quality of one's own work.

"I cannot take the risk in terms of quality that I would assume that something is the way it used to be. So if it is a familiar topic to me, and I feel that the solution is the same as before, it is likely that I will not do it myself. I will delegate it to someone else."
(Director, Company 1.)

"If it is an easy and familiar task, I try to delegate it to other team members, for them to do. There are two reasons for it. The first is to divide the amount of work more evenly, and our business model works in the way that we should always find something useful to do for the employees at lower levels. And then the second reason is that my own interest, and the reason why I have enjoyed my time here, is the constant learning process. You learn from the difficult tasks and you do not learn from the easy tasks, so naturally, I want to use my own time for the challenging problems." (Manager 1, Company 2.)

"If it was familiar and easy for me, for example a due diligence project, then I would immediately get the team together and go through it verbally with them. I would not necessarily think about it myself beforehand, for more than a few minutes. Because I have already repeated the process so many times that I actually have a certain template of it in my head." (Director 2, Company 3.)

"In that situation, I either do it myself pretty quickly because I already know how to do it, or then I will give it to someone else who does not know how to do it. And now the other person gets to learn it, I can be the one teaching it. In a way this helps the planning too, when there are more people who know how to do the tasks that we do." (Manager 3, Company 2.)

4.1.3 Quality of work

One of the interviewees stated that all of the planning and efficiency can be summarized in the slogan he had learned during his time as an expatriate, 'work smarter, not harder'. In his view, at its core it means doing the right things at the right time. The worse option would be that one tries to do everything perfectly from start to finish, which in an expert organization easily leads to exhaustion. Similarly, another explained that he and his colleagues have had discussions about the greatest challenge in the director level being how to use one's own time as efficiently as possible. A director's hourly compensation can be four times as high as a junior's, so directors have to prioritize

their own time with cost-effectiveness in mind as well. If a director does something that a junior also knows how to do – for a quarter of the price – it is not an effective use of the director's time. Instead, the director should use this time for tasks that others cannot do and which create value for the company, such as sales and customer relations.

> *"There is actually an interesting line of thought here, when you think about not only the price per hour but also the know-how. It is that as soon as I learn something, it is not economically effective for me to do it anymore. So I should delegate it down to the person at a level below me and let others learn the task. And I should start searching for a new task to learn."* (Director, Company 1.)

By proper planning, one can also avoid doing unnecessary work. In short, the saying 'well begun is half done' holds true with projects. The more effort is put into the planning process in the beginning and into defining what the customer expects from the expert organization, the better the outcome usually is.

> *"I prefer having a clear direction, really knowing what to do, over filling the task list for the sake of filling it. Especially when I am in a managerial position, if I instruct my team to do unnecessary work, it is always my fault. I should know better."* (Director 2, Company 3.)

Seven interviewees agreed on that planning one's work activities has a positive effect on the quality of work; whenever there is time to make plans and think about what to do next, it helps in completing projects on time. A proper design helps especially in completing tasks that are not urgent, but are nevertheless important. Systematically designing workdays also improves the ability to 'work smarter' – to do right things at the right time.

> *"In my opinion, planning has a big impact on the amount of future work. You can do the same tasks with less hours when you have planned your activities well. And at the same time, nothing is left undone, so also the quality of your work is better on average."* (Manager 3, Company 2.)

The more there is time to concentrate on a new task or topic, the more a business professional is able to develop the skills and knowledge applicable to that field – planning helps to concentrate on the essential. One interviewee explained that for him, planning means that he can concentrate on the difficult, challenging, and important projects during the four or five hours per day that he considers his 'fresh time'. Identifying the important tasks of the day and completing them during the

productive hours significantly improves the quality of his work. Similarly, another interviewee said that while it should affect even more, the planning affects the ability to concentrate in doing the most important things in the mornings and making sure that each day he completes the things that have to be completed on that day, based on his to-do list. Finally, one participant said that when he is able to block a certain amount of time from his calendar, such as 90 minutes, for only one task, he is able to concentrate fully and achieve much more than without planning to do so beforehand.

4.2 Effort

The second part of each interview was about tasks that require increased effort to perform and how the interviewees manage to perform them. Questions about concentration and mental effort at work were the center of attention. In addition, the challenges and goals that the interviewees set for themselves at work were discussed in order to shed some light on the various ways and reasons for deliberately increasing the amount of effort that is needed at work.

According to seven of the nine interviewed business professionals, performing new and difficult tasks requires the most concentration at work. Additionally, performing tasks that require high amounts of concentration is viewed as a key activity for developing one's skills. The most common way of concentrating is isolation from colleagues, either physically by working from home or a public place, or mentally by blocking others out for example by listening to music.

Although it was explicitly mentioned in five interviews that work in an expert organization is already challenging in itself, the interviewees do create additional challenges for themselves at work. They accept projects and tasks which they have never done before, they set the bar for quality higher than what is expected from them, and they reflect on their work and try to figure out what to improve on next time. The most essential goals that the interviewees set for themselves are related to advancing in their careers, either hierarchically or laterally. Goal-setting was regarded as vital for development by seven interviewees, and without goals, working is at risk of becoming aimless and demotivational.

4.2.1 Concentration

> *"When you do something that you have not previously been exposed to that much, it undoubtedly demands more attention. When you are learning something new. … If a project is within a new type of industry, it takes a lot of time and concentration to get acquainted with it. Whereas when there is a familiar industry within which you have already done multiple projects, you already master the basics."* (Manager 1, Company 1.)

Besides being crucial for learning and the development of skills, performing new and challenging tasks also requires the most concentration at work, according to seven of the nine interviewees. Analyzing new subject matter and performing new and difficult projects that have not been done before are listed as examples of things that translate to increased concentration. Additionally, things that are non-linear, non-straightforward, conceptual, complex, and hard to perceive as a whole require increased mental effort. As opposed to concrete and linear processes, for example market research and due diligence, increased concentration is needed in abstract undertakings such as projects aimed at renewing management structures. In auditing, increased mental effort is needed in situations where one must evaluate whether figures based on estimations such as property values in a financial statement properly represent actuality. When a customer prepares a financial statement, an auditor has to assess the rationality of the reasoning by which the values were chosen for that statement.

> *"Basically, the types of tasks that require evaluation. A calculation of something for example. When something in the balance sheet is estimated to be of certain value and you have to assess whether the value is too high. … It is not based on facts, but rather on opinions, so it requires a lot of thinking."* (Manager 3, Company 2.)

The seven interviewees agreed that tasks and projects that require a lot of concentration are the best way to develop their skills at work. While a lot of their profession is about performing technical tasks, it is the quality of a person's thoughts and ideas which sets one apart in the end, they explained. It might feel uncomfortable to jump in on a new or complicated project when there might be many unknown variables in it, but the greatest learning process comes from having to concentrate in performing something that one does not quite know how to perform yet.

> *"In fact, there are three things. You will of course learn the technical stuff, so you become more skillful technically; this is the foundation upon which to build. And you become more self-confident. Whatever job you have, having confidence in yourself is helpful, especially when you work with customers. And thirdly, you are creating your own brand, because naturally, in an expert organization, the question is how to differentiate yourself from the others. So in a way, by solving difficult problems you already start to brand yourself into a certain category and are able to bring yourself forward a little. It never hurts in organizations like this."* (Manager 1, Company 2.)

One of the interviewees explained that the best-case-scenario is when there is a challenging problem which at the same time has some completely new element to it. This is because no-one has any previous experience regarding it, and he has to fully concentrate and think about every possible aspect of it that can have an effect on the answer. If there is a challenging problem, but there is nothing quite new in it, it usually means someone has already solved it before – the problem can be solved by reviewing old cases, finding applicable answers, and applying them to the current problem. Although it also requires increased concentration and effort, it is still demands less than a completely new problem.

However, two interviewees pointed out that performing only difficult tasks all the time might not be as beneficial as it sounds. Repeatedly doing something challenging and hard can be tiring and lead to exhaustion. Instead, finding a balance between complicated tasks and non-complicated tasks was recommended by the two professionals.

> *"In my opinion, there should be a balance between new and familiar tasks. If you constantly perform only new and difficult tasks and you have to kind of exceed yourself week after week, it might weigh you down mentally. You have to have some routine tasks that act as counter-weights, so that you do not have to burden yourself too much."*
> (Manager 1, Company 1.)

When asked about the actions that the interviewees take when they face tasks that require increased concentration, six of them said that they like to isolate themselves from the others somehow in order to be able to better focus on the task. Working remotely from home came up unprompted in three of the interviews and working at a library or a café were both mentioned once. One interviewee described that he sometimes retreats into a conference room by himself and spreads out

all of the material on the table. Another said that he tries his best to create a space for himself where he can get things done.

Five interviewees explained that isolating oneself from the rest can also be done on a mental level, without ever leaving the office physically. One named his ability to concentrate as 'selective hearing', meaning that when he is fully focused, he will not hear if someone speaks to him. Similarly, another interviewee said that although an extroverted person in general, she has no idea of what is happening around her when she is really concentrated on doing something. Third said that when she works on something important, she likes to listen to music and blocks out everything else – she does not hear or see anything unless somebody comes close to her and yells. Two others also said that they like to put on their headphones and listen to music when they have to concentrate, which not only helps to block out the office noises, but also acts as a do-not-disturb-sign for their colleagues.

> *"If you have a very difficult project of some kind that you have not done before, you have to kind of psyche yourself, get yourself into the required state of mind, in order to be able to do your best. It is like a change of pace in running, you just have to know how to alter your mindset. You cannot run as fast as you can all the time, you have to pick your fights, so to speak."* (CEO, Company 4.)

4.2.2 Challenges and goals

According to five of the interviewees, the business professional's job is so demanding in itself that sometimes there is no need to actively try to search for additional challenges. To be able to bounce back and forth every day, from industry to industry and topic to topic, presents the interviewees with challenges that are in fact inherent to their profession. During the busier times of the year, it is difficult enough to manage to complete the normal, non-complicated tasks and projects on time. In addition, the overall organizational culture that expert organizations have sets a high standard in terms of quality – the employees adapt to this culture and thus do not have to consciously challenge themselves on a daily basis.

Still, there are ways of creating extra challenges at work. Five interviewees talked about the same thing that they view as the very essence of development and learning at work: accepting new types

of tasks and participating in new types of projects. Many times, not saying 'no' is enough to step outside one's own comfort zone. One of the interviewees said that a way for him to challenge himself is to never say up front that he does not know how to do something. If he has no previous knowledge of a topic, the challenge for him is to first find out about it. Another explained that she challenges herself by always trying to fully understand every aspect of a business: Where all the figures come from and the underlying reasons for their behavior.

Four of the interviewees mentioned demanding more from themselves than what others expect from them, not allowing themselves to cut corners and sometimes working more than they should. They deliberately set higher standards for themselves than what are needed, not settling for the easiest answer but trying to search for the one that gives the best result. For three others, an important way of challenging themselves is to reflect on their own performance. Self-reflection was explained as the questioning of their own actions from time to time and thinking about whether they are in fact performing the right tasks in the first place. Besides daily or on a task-specific level, the reflection process can also mean thinking about what to achieve annually.

> *"Of course, I think about my own performance on a daily and weekly basis, but I also try to think about what I would personally like to achieve each year. And then when I face new tasks, I often try to figure out whether they are in line with my yearly goals."*
> (Manager 2, Company 1.)

Goal-wise, a few common themes came up during the interviews, one of which was that the interviewees want to be in constant motion and advance their careers. For three, the objective is to achieve the goals that the organizations set for them, but advancement does not necessarily mean moving up hierarchically. Instead, the movement can also be lateral – for example a new role, new customers, working in international teams, or working abroad. Four of the interviewees explained that they have goals regarding the types of projects they want to participate in. Ideally, these projects are selected in such a way that they support the overall development path that the interviewees have planned for themselves. When this happens, by achieving the goals that are set for the projects, the interviewees simultaneously achieve their personal goals.

Seven interviewees saw goal-setting at work as important for development; five mentioned that they would not stand performing routine tasks or that they set goals in order to learn new things and progress in their careers. Two interviewees also talked about the positive effect on the level of sensibleness that goal-setting has, and one of them compared working without goals to the movie

Groundhog Day, where the protagonist wakes up each morning to live the exact same day over and over again. The other explained that working in an expert organization creates unrealistic career expectations for an employee, and working long hours aimlessly can result in a disappointment regarding those expectations.

> *"Goal-setting is important in order to know which direction you are heading to. Because in a way, perhaps the biggest risk at work, especially in a place like this where we work more than the average person, not exactly nine-to-five, is that you will have an expectation gap. If you do not set goals for yourself, and you work extremely hard, you might end up realizing after a year that you have not moved forward at all. The same routine tasks await you next year, there is no development whatsoever, and that is how the expectation gap is formed. Goals help to prevent that: When you set goals for yourself and aim to achieve them, good things will happen, hopefully."* (Manager 1, Company 2.)

4.3 Repetition

The third part of the nine interviews was designed to find out about the importance of repetition in professional development. First, questions regarding the interviewed professionals' work experience and interests were asked in order to find out about the backgrounds of the interviewees. Then, methods for practicing and preparing for important tasks were inquired to see whether repetition would be among them. Finally, a direct question about the role of repetition in their work was asked.

All interviewees were experienced employees in expert organizations. The directors and managers had at least 10 years and 6 years of industry-specific experience, respectively. Seven of the interviewees became interested in working in an expert organization during their university studies, but two recognized that chance also played a part in their choice of profession. Six interviewees follow their industry by keeping up-to-date on major events and reading at least some related literature or news in their leisure time.

For most, the actual practicing at work happens in real working situations; learning by doing was cited by seven interviewees as the first and foremost method of practice. Four added that afterwards, they like to think about what could be done better next time or focus on their

weaknesses and develop them. When explicitly asked about the role of repetition, the interviewees answered that while it helps by bringing certainty for the performance of basic tasks and processes, they usually try to avoid repetitive tasks and routines in order to keep the quality of their output high and remain motivated.

4.3.1 Experience and interests

All nine interviewees have multiple years of experience of working in an expert organization. Of the three directors, two had approximately 10 years of consulting experience, whereas one had been working in transaction services and management consulting for 16 years. In addition, the CEO had worked for 23 years in audit, tax, and transaction services within the same organization. The five managers that were interviewed had 4-7 years of industry-specific work experience, and a two of them had additional experience from a related industry. The minimum amount of time that a manager had been employed by an expert organization was 6 years. Table 3 presents a summary of the industry-specific work experience of the interviewees.

Table 3. Years of industry-specific experience that the interviewees had.

Position	**Experience**	**Additional information**
CEO	23 years	
Director*	16 years	For the first three years, owned his own consulting company
Director	10 years	
Director	10 years	Has also worked in the banking sector in between consulting jobs
Manager	7 years	
Manager	6.5 years	
Manager	6 years	Has previous experience from a related industry
Manager	6 years	
Manager	4 years	Has also worked 2.5 years in accounting in the same organization

*Was promoted to partner a few months after the interview was conducted.

For seven of the interviewees, the industry they currently work in started to seem interesting during their university studies; one of them remembered first hearing about consulting even before he went to the university. Three of these seven, all working in management consulting, majored in industrial engineering. There was no uniform route for how the interviewees had reached their current positions, but one common denominator for five of them was that they had worked abroad for a few years, either in a different company or as posted workers of the same company they currently work for. After gaining some international experience, they returned to Finland to utilize it and prove that they are suited to serve in leadership positions. Two of the interviewees also said that when they tried working in other positions, for example as a controller or as an analyst, they became bored very quickly because of the large amount of routines involved.

> *"I felt that accounting was something that I was, maybe not talented at, but at least attracted to. It offered a systematic way of thinking compared to marketing and many other things. It has been a foundation for me upon which to build, and at this point I have indeed done various other things too. So I was right when I thought 'If I go on to work in this industry, I can do all sorts of things'."* (CEO, Company 4.)

However, two interviewees stated that they did not have a particularly strong feeling of what to do or where to apply to during their studies or after graduating, and that chance also played a role in their choice of profession. For them, the main reasons to apply to – and remain in – an expert organization were that the work is interesting and diverse, and that they have possibilities for development.

> *"I graduated after Lehman [Brothers declared bankruptcy], so there were not too many jobs available, and I applied everywhere and this firm hired me. So I did not have a sense of 'I want to be this or that when I grow up'. It was more like I got a job, realized that I enjoyed it, and noticed that there are many challenges and interesting tasks here. So that is why I am still here."* (Manager 1, Company 2.)

The interviewees' interest in their jobs shows in that work is present also during their leisure time; six out of nine said that they are at least somehow interested in things related to work outside their actual working hours. Four stated that they read literature related to their line of business, regularly follow business news online, or keep up with major events in the markets by reading newspapers. In contrast, three interviewees said that they do not usually think about work outside the office or during weekends. The reasons for this are that they either participate in training programs and

seminars where they learn enough about the latest major developments, regulations, and trends, or they already ‘reach their quota’ of reading industry-related literature at work.

4.3.2 Practicing

When asked to think about how they develop their skills in a particular task, seven of the nine interviewed professionals answered that mostly, they simply practice and learn by doing. For example, participating in projects is seen as an efficient way of practicing how to do project work. Sometimes they take part in courses and training sessions where they are able to try out new technologies and new systems, or the organization creates pilot projects where new procedures and new methods for analysis can be tested, but the majority of practice happens by performing tasks and projects in real life.

> *“Maybe when I am performing something new, I do multiple rounds of reconciliation to make sure my numbers and figures are correct. Or I do the reconciliation in two different ways just to be sure of the results. So maybe when I am performing newer things, I sort of practice by double-checking my conclusions.”* (Manager 1, Company 1.)

Three interviewees prepare for an important meeting or presentation by going over it on the previous day, determining what are the key things to say or show at various points; presenting is thought to improve with experience. One other significant aspect of practicing, which also came up in three interviews, was that interviewees like to reflect on their performance after every project and think about what could be done better next time. Similarly, two others stated that they try to face their weaknesses and accept that there are tasks which they do not master. After they have identified areas for development, these five interviewees exert more effort and focus on those areas during the next project.

> *“Some reflection after every iteration. What could have been done differently, what could have been done better. But I believe that it is mostly repetition which helps in learning, and the reflection on top of that. … It [learning] comes from performing the tasks, I would say. And an important part of it is that when you have done something, you have the courage to stop and think about what was done, how was it done, and how could it have been done better.”* (Director 2, Company 3.)

The above quotation is the only time repetition was mentioned explicitly and unprompted in the interviews. When asked directly about the role of repetition in their work, six of the interviewees stated that it is more or less something that junior employees utilize in practicing or that its advantages are in learning the basics of a business professional's job – mentioned examples included creating presentations and converting balance sheets into net worth statements. The positive aspects of repetition are related to the certainty that it creates: Repetition builds experience and experience helps in knowing what to expect and how to proceed.

Three interviewees explained that their nature is of the kind that they try to avoid repetition as much as possible. They delegate repetitive tasks to lower levels in order to provide new learning experiences for juniors as well as to keep the quality of their own work high; when something is repeatedly performed, it becomes a routine, and that can affect the sensibleness of the task, which in turn can affect the quality of the end result.

> *"The more I do something over and over again, the worse it can go. But if I learn something and teach it to others, for example help others in making an offer in the same way I have learned to make it, I will also learn it better. Of course, the old saying is that teaching others teaches yourself. In that regard, repetition is alright."* (Director, Company 1.)

4.4 Feedback

The fourth part of the interviews focused on the role of other people as well as the role of feedback in the professional development of business professionals. For insights about the different roles of other people, questions regarding the kinds of support others provide to the interviewees were asked. To find out about the role of feedback, the interviewees faced questions concerning the types of feedback that they receive and the frequency of it. Also, the interviewees were asked to provide examples of situations where they had changed their ways of working because of feedback in order to see whether the interviewees have been able to utilize the received feedback in practice.

The role of other people in the interviewees' work is pivotal; seven of the nine interviewees said that they would not be where they are now without the people they work with. Colleagues provide peer support, superiors are available to offer different perspectives for problems and care about the work-life balance and well-being of their employees, team members are important in creating an

enjoyable atmosphere at work, and subordinates provide fresh ideas and out-of-the-box thinking. Mentoring was seen as more important in the beginning of one's career than in managerial positions, but the interviewees also learn things efficiently by acting as mentors themselves.

Feedback was viewed as extremely important for development. According to eight interviewees, the best kind of feedback is constructive, concrete, and includes corrective actions that can be implemented. However, the main problem with feedback is that it is rarely completely honest and straightforward between colleagues, because people are careful not to criticize those who they work with. Seven interviewees also stated that they receive feedback too rarely or that they have to actively ask for it themselves.

4.4.1 The role of other people

One of the interviewees said that while many might think that consulting, and especially auditing, is something that does not require much interaction with others, it is in truth almost completely the other way around. Consultants work with other people all the time, and if one is not a competent people manager or does not get along well with others, the work is all for nothing. Six other interviewees provided similar statements.

> *"I would not have survived a day in this business without great colleagues."*
> (Director, Company 1.)

> *"Other people have a completely pivotal role, a huge role, of course."*
> (Director 1, Company 3.)

> *"I would never want to be in a position where I would always work alone."*
> (Manager 1, Company 2.)

> *"Nothing works without a team."* (Manager 2, Company 1.)

One interviewee thinks that his worth is determined by his colleagues, and while he adds something to his team, he is not as valuable as an individual. Another stated that all projects depend on who he works with and surrounds himself with, explaining that although one could design projects based on certain processes and tools, he likes to design things based on what types of people are needed and

who is available. Yet another interviewee explained that he is the type of person who becomes more energized from interacting with others than from working by himself – even if he would create the best Excel sheet, PowerPoint presentation, or conceptual framework of his life, he 'gets kicks from it' only when he is able to discuss it with a colleague.

The interviewees receive support from their colleagues, superiors, and team members in many ways. For example, colleagues are often a source for new ideas and views, and colleagues who specialize in certain fields or areas of business can be utilized in finding answers from those areas or confirming one's own conclusions. If something can be done in two ways, thinking about which way to choose together with a colleague can be helpful. Trying to navigate through difficult situations together and simply being available for discussion and brainstorming were both brought up five times as important ways of providing support to a colleague. Three of the interviewees explicitly mentioned peer support.

> *"That others have the time to bounce ideas back and forth with me [is crucial], because I am a person who kind of needs to juggle things around to keep up motivation. So the most important support that a colleague can give me is having the time for it."*
> (Director 2, Company 3.)

> *"We usually have exchanges of thoughts, when someone has learned something. And I can go and ask 'Have you come across a case like this' from my colleagues, and 'What would you do in this situation' even if they have not. This kind of peer support is what we have."*
> (Manager 2, Company 2.)

Two interviewees explained that superiors can help the most by being genuinely interested in the well-being and career advancement of them, as they have a strong influence on the development of their team members. Another explained that because of their extended experience, superiors can bring an upper-level perspective to problem-solving – they help when he cannot see the forest for the trees. This experience also makes superiors excellent sparring partners when preparing for important tasks.

> *"I feel that my superior, my mentor, is very committed to me, wants my best, and wants to see me advance in my career and learn. He is interested in my well-being and in me as a person. And I am committed to him and to the company in the same way.*
> (Director 1, Company 3.)

Four of the interviewees have a mentor or a coach who allocates time specifically for them, four others have a close superior. The ones who have a mentor said that mentoring is a semi-formal process which includes the official annual or biannual development discussions as well as the more frequent and informal lunch meetings and exchanges of pleasantries. Mentoring was viewed in a positive light, although the interviewees stated that they do not actively seek the guidance of their mentors. Three explicitly said that there is little need for a mentor or a coach in their daily work. On the other hand, one of the interviewees without a mentor stated that it would be important for him to have one, for two reasons: A mentor can act as a coach and help develop the basic skills of an employee, but a mentor would also be able to provide important guidance in learning the best practices and ways to succeed within the particular organization culture. According to the interviewee, having a mentor would help prevent an expectation gap from forming.

> *"My superior is perhaps my primary mentor, but then there is a lot of peer support as well. I have both friends and customers who are in similar situations, and together we think about things like 'What is happening over at your firm' and 'Is this a smart move in terms of my career' and 'What about this situation'."* (Manager 2, Company 1.)

Finally, it is worth mentioning that two of the interviewees did not particularly praise the role of other people in their work, although they did not undermine their importance either. One said that colleagues provide support and help in situations where he is not completely sure about something and needs to confirm it, and that the available peer support makes him 'somewhat better'. According to him, having a mentor or a designated senior employee is useful in the beginning, but at this point in his career he does not think there is a need for one. Likewise, the other interviewee viewed mentoring as important in the beginning, and in her opinion, acting as a mentor herself means that she needs to figure out a lot of tasks completely – mentoring someone else also develops her own understanding of things. She explained that at its best, teamwork is seamless and disregards levels of seniority, but at its other extreme, the role of someone else in her work is only a signature on a paper. In her view, it all depends on the role and the personality a person has; some like to work in teams and some like to work alone.

4.4.2 The role of feedback

One of the most important things that a colleague can do for a business professional is to provide feedback. Two interviewees mentioned that they receive annual 360-degree feedback from subordinates, colleagues, and superiors, whereas five others receive formal and documented feedback from a few colleagues once or twice a year and go through it with a superior. Six interviewees pointed out that they receive feedback too rarely or that the heavy processes for annual or biannual feedback are not enough, and eight interviewees supported immediate feedback. But two of the interviewees also pointed out that people can have very different preferences when it comes to feedback, the need for it depends on the person, and that the latest trend in development discussions is that they should be individualized according to the personality of the recipient.

> *"We have an official feedback system, which kind of revolves around projects, and then we have a yearly consensus review where we collect feedback from a larger group; first everything related to projects and then all the other comments. But what I would like to have more is straightforward feedback, for example after an event, so that it would be fresh in my mind and I could perhaps immediately change or fix something in my own performance, like my presenting style for instance."* (Director 2, Company 3.)

> *"Giving feedback is perhaps the most problematic thing in our organization, when there is so much work to do. … In a way, it would be good if the feedback was given immediately after a project, but usually, we are hurrying towards the next project already."*
> (Manager 2, Company 2.)

> *"The majority of employees always want more feedback; it is a constant when we conduct personnel surveys. In every firm, they always say that there needs to be more feedback."*
> (CEO, Company 4.)

To receive more feedback, the interviewees actively ask for it from everyone. One of the interviewees is a strong supporter of daily feedback and said that every time he steps out of a meeting, he provides feedback of the meeting to his colleague and asks for feedback himself – he described consultants as 'feedback junkies'. Another described that she asks questions related to her overall performance from her superiors ('Is there something I could do differently?') and questions related to her leadership skills from her subordinates ('Have you got enough information?'). She

also pointed out that feedback from projects is asked for after the project is completed, but feedback that can result in corrective actions and in the improvement of quality should be provided as soon as problems arise.

> *"Then of course there are situations where I can get verbal feedback about something at any given time. And this is what we try to do also. If there is an issue, it should be discussed immediately and not three weeks after when the project is already finished."*
> (Manager 1, Company 1.)

Six of the interviewees said that they receive mainly positive feedback from their colleagues, superiors, and customers. But according to them, a fundamental problem exists: It is extremely difficult to receive honest, open, and constructive feedback from the people who work in the same building or in the same project. Usually, the feedback is too positive and with too little constructive criticism, because colleagues try to be careful not to criticize or insult each other. Thus, the interviewees need to force constructive criticism by asking questions about which skills they should try and develop. A related problem is that the quality and amount of feedback depends on the person and for some people, giving feedback – especially constructive – is a very uncomfortable social situation. This applies to customer feedback too: One interviewee stated that because they so rarely receive constructive feedback from their customers, they have in fact started to interpret not receiving positive feedback as a kind of negative feedback. Only two of the nine interviewees said that they mostly receive constructive feedback that is concrete and can be implemented.

> *"I get positive feedback from customers, usually related to the relationship with the customer, like 'Nice guy to work with, can trust in timely delivery'. A lot of this, and not too much constructive feedback. … It will forever be a challenge how to get more constructive feedback and how to put yourself in situations where constructive feedback can be given to you."* (Manager 2, Company 1.)

Although the interviewees described the problems regarding receiving positive feedback, three specified that it is still needed. Positive feedback motivates and drives them forward, especially during peak seasons with little free time, and it also increases their confidence at work. One interviewee recalled a model which states that there should be five positive pieces for feedback for every negative one, and in order to give negative feedback one needs to first create a situation where it is easier to do that. Negative feedback should be presented honestly but in a constructive way, and with concrete steps for the receiver to be able to implement it.

"I think that 'immediate' is the right word here. And of course constructive, so that the feedback always comes with a suggestion for improvement. Not just 'This was good' or 'This was bad', but rather 'This was a bit weak, maybe it could be done this way' or 'This was great, but it could be even better if…'. A mere grade does not tell much."
(Director 2, Company 3.)

"Constructive feedback, whether positive or negative, is something that includes reasoning and content. … It is the same as if a sports coach would tell you 'It went well' or 'It went badly'; you learn nothing from it. What was good about it? What was bad about it? What could be done ever better?" (CEO, Company 4.)

4.5 Additional themes: Ideal project and measuring expertise

Besides design, effort, repetition, and feedback, two other related themes were included in the interviews. After questions about design and effort, the interviewees were asked about what an ideal project would be like according to them. This was done in order to see what they regard as the most important elements in one of their core work activities. At the end of the interviews, the interviewees were asked to think about what has made them experts in their professions and what are the most important things that they do in order to develop themselves. In connection with the theme of what makes an expert, ways of measuring expertise in business were discussed with the interviewees.

If the interviewees were able to create a project for themselves, most of them would focus on forming a good team around them. Seven out of the nine interviewees stated that a key part of an ideal project are the people who they work with. In addition, one other talked about the importance of getting along with others in a project after being directly asked about the role of other people. Only one interviewee did not think that other people are a factor when forming an ideal project, but emphasized variability in collaboration, length, and content instead. In contrast, two of the seven team-oriented interviewees said that the content of the project would not be important at all.

"I would not care about the content that much. What I would like to have is a team of experts who I can trust in. That is all. I will have a good team when I know what each member is able to perform and deliver; that is the perfect situation." (Director, Company 1.)

> *"An ideal project would be when the other parties who you work with are of a certain type, energetic, forward-looking, et cetera. So the ideal project is perhaps more about the customer, the customer's teams who you work with, and your own team, and not about the content."* (Director 2, Company 3.)

The six other interviewees who mentioned the importance of other people also talked about the content to various extents. Four mentioned an interesting customer or industry, three said that they would ideally work on something that they have not done before, and two stated that an ideal project should have an explicit goal and a measurable impact.

The most important things that the interviewees do in order to develop themselves are constantly studying and performing new things and putting themselves in situations where they can learn; six of the nine interviewees talked about one of these issues. Concentrating in what they do and exerting their best effort at work every day was viewed as the most important factors for development by three interviewees. Finally, the interviewees were asked about the ways of measuring the development of expertise in the field of business. While the answers varied greatly, customer satisfaction and the revenue that an employee brings in for the company were both mentioned three times as concrete measures for expertise.

5 DISCUSSION

This chapter discusses and analyzes the key findings of the study. First, the most important findings regarding the deliberate practice elements of design and effort are presented and compared with the previous studies and the theoretical framework of this study. Then, the most essential findings concerning the elements of repetition and feedback are likewise discussed together with the results of the literature review and the theoretical framework.

5.1 Design: Planning, prioritizing, and performing new tasks

Figure 7. The components of appropriate design.

Based on the deliberate practice literature, the components of appropriate design are carefully structured tasks, systematic ways of working, and self-imposed challenges (Figure 7). The first thing that became clear in the interviews was that the interviewees plan their days beforehand, which is to say that their work activities are indeed **carefully structured**. Similar to Dunn and Shriner's (1999) study of teachers and Sonnentag and Kleine's (2000) study of insurance agents, planning and preparation activities at work were one of the major topics related to design that were discussed during the interviews. Calendars and to-do lists are without any doubts the most important tools that help business professionals design their workdays; all nine interviewees mentioned at least one of the two.

But what the original theory of deliberate practice regards as design is not directly transferable to business, based on this study; some modification is needed despite the connections mentioned above. Ericsson et al. (1993) describe that deliberate practice activities are designed to "improve the current level of performance" (p. 368) and to "optimize improvement" (p. 363). It cannot be

established from the interviews that business professionals (or their superiors) design the tasks that they perform in such ways – in fact, the types of projects they engage in mostly depend on the problems that their customers have, industry-specific factors, and the overall economic situation. Instead of 'optimizing improvement', the designing of activities with the help of calendars and to-do lists seems to help in optimizing performance and efficiency. So the difference is that while the original theory focuses on the optimal design of each task, the design in business should perhaps be thought of as the optimal design of workdays which can include several tasks.

The overall picture that the interviews painted was that calendars are used in structuring the schedule of the upcoming week or few weeks, whereas to-do lists are created in the morning for the ongoing day only. Even though the interviewees stated that careful planning is hard because their schedules constantly evolve, it is important for them precisely because their work is so hectic and seemingly chaotic; to-do lists help in concentrating on the essential and calendars make sure that they do not forget important project deadlines. Dunn and Shriner (1999) found that mental planning was one of the key tools for improving organization, creativeness, and problem-solving. It was evident in this study as well, when the interviewees talked about being able to keep tasks in order of importance inside their heads – four of the interviewees mentioned it explicitly. One explained that he has a 'pipeline' of tasks sketched in his head, another said that he writes his to-do lists on paper in the mornings based on a priority list inside his head.

Being able to plan activities mentally seems to be an important part of effective prioritizing, and accordingly, prioritizing was another essential work design topic. It is perhaps the best evidence of the **systematic ways of working** that the interviewed business professionals have. In Coughlan et al.'s (2014) study, the deliberate practice of expert Gaelic football players was systematic in that they prioritized practicing the weaker of their two kicks, although it was probably more difficult. In a similar fashion, business professionals deliberately prioritize urgent and more difficult tasks over less urgent and easier tasks according to project deadlines, calendars, and their own development goals. Baker et al. (2005) found that because of the systematic design, expert ultra-endurance triathletes are able to practice at a higher level both qualitatively and quantitatively. The same applies to the interviewees in this study – systematic ways of working enable them to get more work done and at the same time concentrate on the tasks that are important for their own development. The idea of prioritizing and working systematically was condensed into two neat concepts: How to use one's time at work as efficiently as possible, and how to 'work smarter, not harder'.

The answer to these two problems, in part at least, seems to be to continuously perform new and unfamiliar tasks. In a way, planning carefully and prioritizing systematically are merely the tools which enable the designing of work activities properly, and the end result is finding new tasks to perform and new skills to learn. The term "appropriate **self-imposed challenges**" was used by Lehmann and Ericsson (1996, p. 25, emphasis added) to describe expert sight-reader musicians' practice design of presenting themselves with tasks that are just outside the realm of current reliable performance and increase in difficulty as the performer advances. Likewise, the interviewed business professionals challenge themselves by constantly searching for opportunities to do something that has a completely new element to it – a new type of task or project, a new method for analysis, a new area of business, or a new role in a team. This is done solely for the purpose of development, which is precisely what deliberate practice is about. As mentioned, the interviewees cannot always influence the types of tasks that they perform, but their goal is to do so as often as possible. Seven of the nine interviewees stated that performing unfamiliar tasks is the most important way of developing at work; the two who did not, stated nevertheless that their ideal project would include some new aspects that they would learn during the project. Four interviewees even explained that whenever they feel that a task is familiar and easy for them, they delegate it to others, because there is little to learn from easy tasks and consequently, the motivation to perform them is low. A clear connection can be made with deliberate practice studies investigating the field of medicine: Ericsson (2004) and van de Wiel and Van den Bossche (2012) both found that challenging problems are of value in medical work. According to them, the design of work activities should include appropriate challenges, because the motivation to engage in learning at work comes from solving patient problems and not from performing routine tasks.

The element of design, with a minor modification, thus seems to be an important part of deliberate practice in the field of professions. As a last note on the element of design, seven interviewees stated that their self-designed ideal project would, first and foremost, include a good team to work with. At best, other people introduce completely new ways of thinking, provide constant feedback in a virtuous cycle, and create an environment where the team achieves considerably better results together than with each member contributing as an individual. Therefore, it can be stated with confidence that based on the interviews, teamwork influences the development of expertise in business. This is consistent with the findings of Helsen et al. (1998) and Lund et al. (2013), in their studies of deliberate practice in team sports. The former study proposed that the definition of deliberate practice should be expanded to include team practice, and the latter argued that deliberate practice is not fundamentally a solitary activity. The interviews support both of these claims.

5.2 Effort: High-concentration activities, high standards

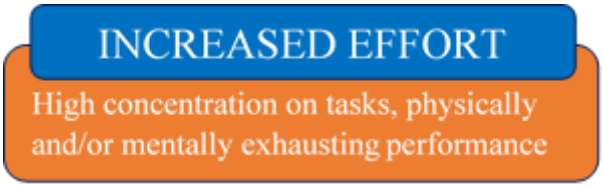

Figure 8. The components of increased effort.

As defined in the literature review, increased effort in deliberate practice consists of two components: high concentration on tasks and physical and/or mentally exhausting performance (Figure 8). In addition to viewing the performance of new tasks as the most important activity for development, seven of the nine interviewees in this study also agreed that performing high-concentration tasks is the most important way of developing oneself. It follows logically (see Figure 9, below), and was confirmed by the interviewees, that **high concentration on tasks** is required the most when working on something unfamiliar. The positive correlation between increased focus on performance and the development of expertise has been confirmed by multiple deliberate practice studies in music and sports (e.g. Lund et al., 2013; Rainero, 2012; Sloboda et al., 1996). The results of this study indicate that business professionals are able to prioritize high-concentration activities at work, and that they deliberately and consistently do it because they regard these activities as the best way to develop. The prioritization of activities which require increased focus to perform links together the elements of design and effort and indicates that the conditions for effective deliberate practice at work are met through self-imposed high-concentration challenges.

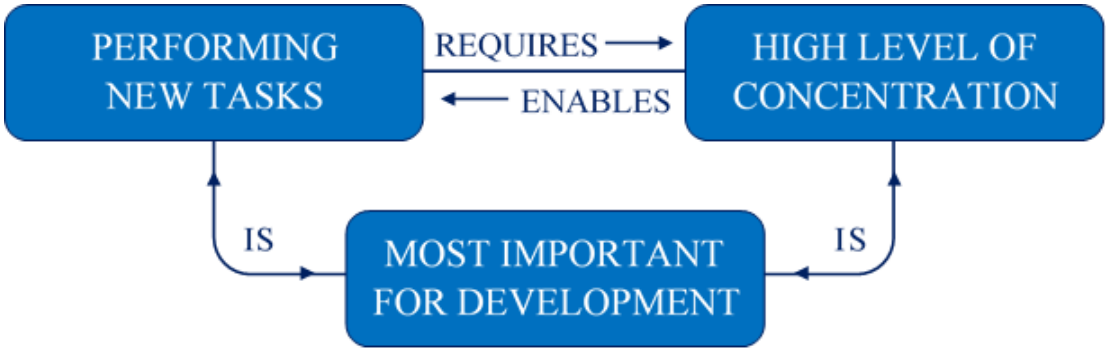

Figure 9. The relationship between high concentration and the performance of new tasks.

Although physical effort is largely irrelevant in business, increased focus can be translated into increased mental effort. Studies of expert musicians (e.g. Ericsson et al., 1993; Sloboda et al., 1996) have established that effective deliberate practice can be sustained for only brief periods at a time, and that the highest-achieving musicians tend to focus on effortful practice in the mornings. This kind of **mentally exhausting performance** was directly referred to in the interviews for this study by five participants, three of whom described their efforts to perform new, difficult, and important things in the mornings or during the four or five hours of 'fresh time' per day – one added that it is impossible for him to be highly productive for 12 hours every day. Two other interviewees stated that it would be exhausting to work on something completely new all the time and that one should find a balance between new and familiar tasks. Keeping in mind that it is precisely these new tasks that contribute the most to development, it can be concluded that as in sports and music, the activities at work that are the most relevant for improvement in performance are also the most effortful and mentally exhausting.

One other significant topic related to increased effort that should be mentioned is that out of the nine interviewees, four said that they deliberately 'set the bar high' at work by demanding more from themselves than would be necessary – including all three directors. The high standards that these interviewees set for themselves are perhaps partly 'programmed' into their subconscious by the organizational culture in the expert industry, but at least part of this behavior could be explained by the following reasoning: Increased effort is exerted into performance at work because increased effort likely results in the development of expertise, which in turn results in continuously outperforming others, and outperforming others is needed for career advancement. In other words, it is hypothesized that the most ambitious business professionals aim to become the best in their professions and as a result, demand the most from themselves. It was also indirectly implied in several interviews that the higher standards that the interviewees set for themselves stem from their somewhat perfectionist nature, which led one to speculate whether personal characteristics have some kind of an effect in the development of expertise, and whether perfectionists are more suitable for careers in expert organizations. Reviewing previous deliberate practice research did not yield results regarding how performers setting higher standards for themselves relates to deliberate practice and the effort that it requires, but it nevertheless proved to be an interesting topic of discussion with the four interviewees during this study. As all three directors who were interviewed mentioned demanding more from themselves than what would be necessary, exerting increased effort seems to have an influence in career advancement.

5.3 Repetition: Relevant experience and learning by doing

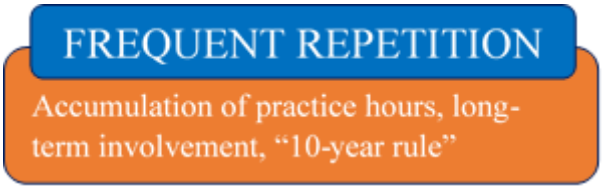

Figure 10. The components of frequent repetition.

According to the literature review, the deliberate practice element of frequent repetition consists of the accumulation of practice hours, long-term involvement, and the so-called 10-year rule (Figure 10). The **accumulation of practice hours** in business is not directly comparable to deliberate practice in sports or music; business professionals do not practice per se. Given their hectic jobs where the flow of incoming project work is uninterrupted, the task-lists are constantly evolving, and the efficient use of time is important, this is hardly surprising. When directly asked about the repetition of tasks as a means of acquiring expertise, six interviewees explained that it can be useful in learning the basic skills in the beginning of one's career, but only one said that repetition is still a part of his learning process. Instead, seven out of the nine interviewees stated that they simply learn by doing – which should be regarded as a sort of 'practice' at work. The original deliberate practice theory could therefore be expanded to include learning by doing as an alternative form of practicing when it is applied to the business realm, because frequent repetition, which is arguably the central element of the theory, simply does not occur in business in the way it is explained by Ericsson et al. (1993), according to the results of this study. Moreover, a connection can be made between learning by doing and Charness et al.'s (2005) chess study, which found that in addition to the time spent on deliberate practice, cumulative hours of tournament play also predicted chess expertise in some analyses – tournament play in chess is comparable to the learning by doing explained by the business professionals.

Sonnentag and Kleine (2000) suggest that instead of the accumulation of deliberate practice hours, current deliberate practice at work combined with relevant experience contributes to expertise. The importance of relevant experience in their study of insurance agents can be validated based on the results of this study. The minimum amount of time any interviewee had worked in an expert organization was 6 years, which means that they presumably have acquired a large amount of the

relevant work experience needed to reach expert status. It is reasonable to consider 6 years a long period of time in today's business world, where job-hopping and switching industries are not viewed in a negative light anymore. Although Sonnentag and Kleine (2000) show that simply adding up years of experience was not a significant predictor of performance, other studies (e.g. Baker et al., 2005; Hodges et al., 2004; Lehmann & Ericsson, 1996) have found that **long-term involvement** in a domain is an important part of the development of expertise. In addition, van de Wiel and Van den Bossche (2012) state that work experience has a positive relationship with performance, and the interesting aspect related to experience in this study was that all three directors and the CEO who were interviewed had at least 10 years of industry-specific work experience. Conversely, none of the managers had accumulated more than 7 years of experience. These findings are unequivocal in suggesting that the **"10-year rule"** proposed by Simon and Chase (1973) and advocated by Ericsson et al. (1993, p. 366) holds true in terms of reaching the director status. Moreover, the CEO had 23 years of experience, far more than anyone else, and the most experienced of the three directors (16 years of experience) was promoted to partner a few months after the interview was conducted. Based on this, it can be concluded that relevant work experience and long-term involvement are strong predictors of expertise in expert organizations.

5.4 Feedback: Crucial colleagues

Figure 11. The components of informative feedback.

The last element of deliberate practice, informative feedback, is defined in the literature to consist of coaching, asking for consultation and advice, and formal and informal evaluation (Figure 11). Evidence of **coaching** in the literal sense of a coach being present all the time and providing guidance to the business professional before, during, and after performance was not found in the research interviews. Four interviewees did have a mentor or a superior allocated to them with whom they would formally review their development annually or biannually, but only one of the nine

interviewees viewed having a coach or a mentor as important – this person was not allocated a coach. Given the amount of 'fuzz' about business coaching recently, the fact that having a coach was not seen as a relevant driver for development at work was a surprise. One explanation for this could be that the interviewees were simply experienced enough to feel that a coach would prove to be of very little help to them in their work, but it is also possible that the coaching and mentoring programs are not functioning properly at the organizational level in the interviewees' companies.

Additionally, although all nine interviewees agreed on the importance of feedback, they favored frequent and immediate feedback from peers over heavy organizational processes such as scheduled development discussions with superiors. The interviews did indicate that because of their extended experience, superiors are first and foremost viewed as sources for different perspectives and advanced information, but instead of holding prescheduled meetings, it was expressed in the interviews that these encounters with superiors happen quite spontaneously whenever needed. A connection – perhaps a bit far-fetched – could be made with Lund et al.'s (2013) findings which suggest that in team sports, experienced players act as role-models and provide guidance to the rest. Nevertheless, the inevitable conclusion one arrives in is that in addition to coaching, **formal and informal evaluations** are not viewed as essential for development either.

Instead, the interviewees stressed the importance of peer support and their colleagues' availability for discussions, idea generation, and brainstorming in their work; **asking for consultation and advice** from others was thus deemed more crucial than coaching or evaluations in this study. Other studies of deliberate practice at work support this notion, reporting that asking for feedback is relatively often performed with the goal of improving competence (Sonnentag & Kleine, 2000) and stating that discussions with colleagues are perceived as highly relevant for improvement (Dunn & Shriner, 1999). In line with the above, the overwhelming response to inquiries about the role of others in the interviewees' work was that other people are completely and utterly crucial. As much of the work in expert organizations is done in project teams and the majority of the interviewees highlighted the 'people business' aspect of their professions, peer support and peer-to-peer consulting could in fact be regarded as a form of coaching from the point of view of the deliberate practice framework.

Perhaps the most surprising common theme that formed based on the interviews was that when asked to create an ideal project for themselves, seven out of the nine interviewees emphasized people over content. This uniformity was something completely unexpected, especially when taking into account that there were no mentions of colleagues or the roles of other people before that point

in the interviews (see appendix for the interview guide) and that the specific interview question was perfectly open-ended: ‘What would an ideal project be like?’ As stated before, all nine interviewees agreed on the importance of feedback and preferred frequent, straightforward, constructive, and immediate feedback from peers over semi-annual official reviews with a superior; it again highlights the importance of daily interaction with colleagues. The creation of this culture of giving and receiving feedback should start from the organizations, who should emphasize its significance to their employees, allow employees to allocate time for it, and implement systems for making frequent and informal peer-to-peer feedback not only possible but an integral part of work activities. In the business domain, the deliberate practice element of informative feedback is more or less defined as trying to actively engage in discussions with colleagues with the purpose of improvement in mind, so it is essential for an employer to encourage this kind of behavior.

6 CONCLUSIONS

The sixth and final chapter of this thesis presents the conclusions of the study. First, the research is summarized and the research question is answered both visually and in written form based on the findings of the qualitative interviews that were conducted. Second, the main managerial implications of the findings are discussed. The third and final part of the chapter revisits the limitations of the study and introduces some suggestions for further research on the topic.

6.1 Research summary

The starting point for this thesis was to investigate the role of deliberate practice in business, and particularly in expert organizations. While deliberate practice is widely researched in sports and music, studies of it in the workplace are scarce – as Ericsson (2004, pp. S70) notes: "The factors that cause large individual differences in professional achievement are only partially known." The few studies of deliberate practice in professions, as well as the majority of research in sports and music, have mostly suggested that the theory is valid. Thus, it was reasonable to assume that elements of deliberate practice could also be utilized in the development of business expertise, but undoubtedly, more research on the subject in the professional context was needed. For this reason, the research gap for the study was clear.

The main objective of this thesis was to find out what the deliberate practice framework looks like in the daily work of managers in expert organizations. In doing so, the thesis adds to the academic knowledge of deliberate practice in business. The research question that this study set out to answer was formulated as:

How do managers utilize elements of deliberate practice in their work at expert organizations?

In the literature review part, four key elements of deliberate practice were identified: appropriate design, increased effort, frequent repetition, and informative feedback. Each element was further divided into a few key components based on the existing deliberate practice literature. The four elements along with the components they consist of are presented in Figure 12 below. Each

component is highlighted according to how well it corresponded to the research question based on the interviews that were conducted for this study – in other words, Figure 12 represents the visualization of the answer to the research question.

The research was conducted in the form of nine qualitative interviews with business professionals from four different companies. The criteria for interviewees were that they must be employed by an expert organization and that they must have reached at least the position of manager in their careers. The interviews were semi-structured according to the preliminary theoretical framework of the study, with open-ended questions grouped together based on the identified elements of deliberate practice.

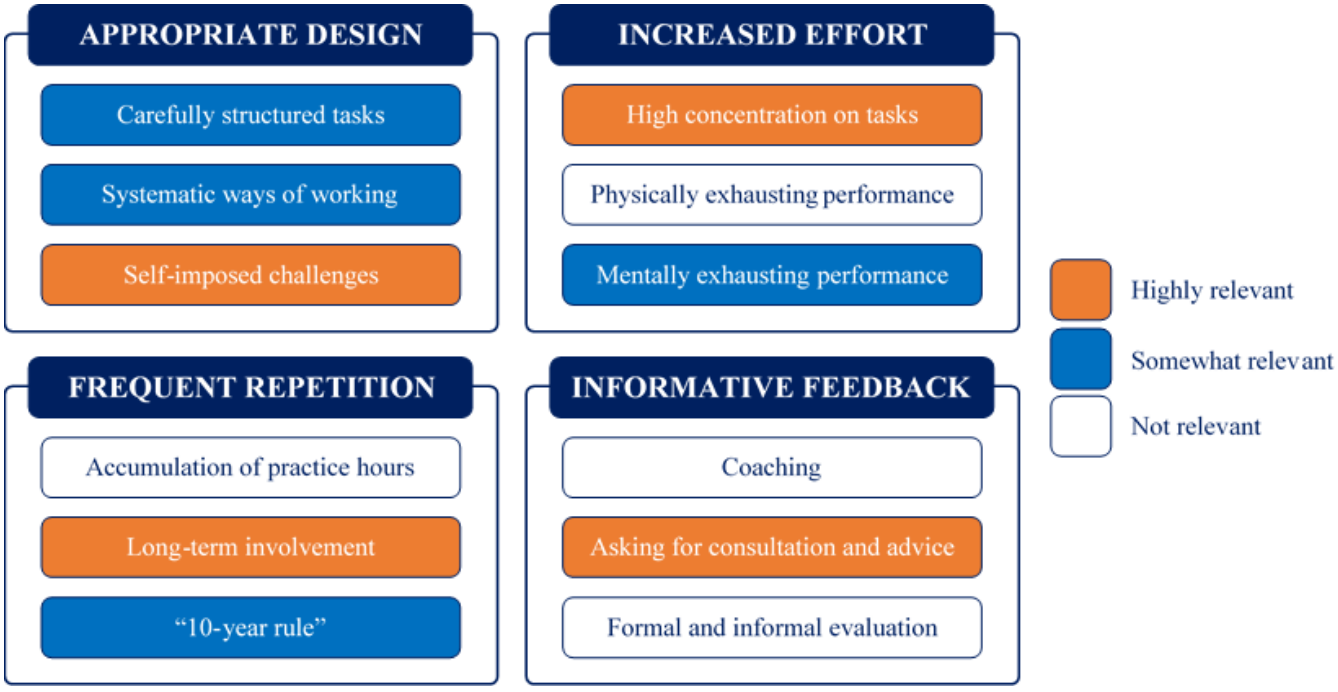

Figure 12. The relevance of the elements of deliberate practice for development.

According to the results of this study, each of the four elements of deliberate practice contains at least one component which is present in the interviewees' daily work as well as one component that is regarded as highly relevant for the development of expertise. Appropriately designing one's work activities was found to be the most often performed element of deliberate practice, and challenging oneself by constantly performing unfamiliar tasks was defined as its most important component. Doing so goes hand in hand with increased effort because of the high concentration that performing

unfamiliar tasks requires. Frequent repetition is not particularly applicable to business professions per se, but long-term involvement in the field produces relevant experience, which could be one of the factors that contribute to the level of expertise. Finally, informative feedback should by no means be considered unimportant, but instead of coaching or evaluations, the vast majority of it comes in various forms of peer support when asking for consultation or suggestions for improvement from colleagues.

In order to answer the research question, the research can be condensed into two key takeaways:

1. *Managers in expert organizations deliberately design their work activities to include unfamiliar tasks, which require high concentration to learn.*
2. *Managers actively seek feedback and other forms of peer support from colleagues with the purpose of improvement in mind.*

6.2 Managerial implications

There are two main implications that this study provides. The first is that the key to development at work is to make sure that employees have opportunities to constantly perform unfamiliar tasks – pilot and take part in new types of projects, dive into challenges in new industries, and try different roles in their teams and departments. The assumption based on the nine interviews is that when they are provided with these opportunities, business professionals will engage in deliberate practice activities and develop their expertise automatically, with little need for further effort from the managerial side. The expertise development is due to not only the new topics, ideas, industries, and ways of working that employees are able to familiarize themselves with, but also to the increased concentration that the performance of new tasks requires. Furthermore, a beneficial 'side effect' is that the business professionals also have more motivation towards their work, because their task lists are not too repetitive and they feel that their careers are in constant motion.

The second main implication of this study is that employees in expert organizations should be encouraged to have as much informal interaction with colleagues as possible. Peer support should be included in the corporate culture and opportunities for interaction systematically created – the role of other people in a business professional's work cannot be overstated. The research interviews show that managers in expert organizations are able to improve their ways of working based on the

concrete feedback they receive, but also that they receive feedback too rarely and that much of it is practically useless. This means that rather than designing company-wide stiff and formal processes that try to include everything in a semiannual feedback summary, employees should simply be encouraged to ask for short and specific feedback from colleagues after every meeting, presentation, project, and report. This way, they immediately receive information of what went well and what could be improved upon, with things still fresh in their minds. They would also be able to develop themselves constantly and focus on one thing at a time, as opposed to waiting months to get feedback and then trying to develop everything at the same time.

6.3 Suggestions for further research

The suggestions for further research on the topic of deliberate practice in business are partially formulated based on the limitations of this study, discussed in Chapter 1, as well as the theoretical framework, which was presented in Chapter 2. In general, it can be said that any research that investigates deliberate practice in professions, and especially in business, is welcome because of the scarce body of existing research on the topic. In connection with this study, a few potentially fruitful ideas for future research are presented as the final part of the thesis.

One of the key limitations for this study was that a sample consisting of people who can arguably be considered to have already reached expert status in their professions was chosen; besides long-term involvement in the field, very little data was gathered on the subject of how the nine interviewees in fact became experts. Longitudinal studies would be required to find evidence of the causality between deliberate practice and the development of expertise in business. Thus, one avenue of further research would be to follow the career advancement of employees who perform deliberate practice activities at work: What is the importance of them for career advancement in expert organizations? A related study topic would be to search for correlation between the amounts of deliberate practice and acquired expertise: Does more deliberate practice result in a higher level of expertise?

Another theme for further studies is to see how corporations could use deliberate practice to their advantage. McEdwards (2011; 2014) has shown promising results of designing training programs according to the deliberate practice framework, but integrating deliberate practice activities into the

corporate culture and the daily work of employees could prove even more useful. According to this study, the most important ones of such activities would be the continuous performance of unfamiliar tasks and extensive interaction with colleagues with the purpose of improvement in mind, as discussed in the managerial implications above. Research into the ways of including these components of deliberate practice in the organizational culture should provide some valuable guidelines for people management in expert organizations.

Finally, there is one fundamental problem that very likely limits the amount of deliberate practice research in professions: Measuring the level of development or the level of expertise is extremely difficult in the field of business. Unlike in sports or music, in business there are no universally accepted evaluative standards based on which a person could be regarded an expert. When asked about the criteria for measuring whether someone is an expert or not, most of the interviewees for this study said that concrete ways of measuring expertise are very difficult to find. Three suggested a customer satisfaction index and three others talked about the revenue an employee brings to the company, but the need for future research related to measuring the development of expertise in business can best be summarized with the following quote:

> *"If you come up with a measure, please let me know as well!"* (Director 2, Company 3.)

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APPENDIX: INTERVIEW GUIDE

Warm-up

W1. Tell me about your role(s) in this organization.

W2. Tell me about your typical day at work.

Design and Effort

D1. How do you plan your activities at work?
- Do you do it on the previous day or in the morning, or do you just ‘go with the flow’?
- Have you always worked this way?
- Do you have any important routines?

D2. How does planning beforehand affect your work?
- Are you able to concentrate more? Why do you think that is?
- Does it affect the quality of your work in any way? What (else) does?
- Do you feel that you learn more from the task?

D3. How do you approach a new task? Do you approach all tasks in the same fashion?
- Do you have a different approach, when the task is familiar / easy / difficult?
- Do you have a systematic approach to tasks that come up frequently?

E1. What kinds of tasks require a lot of concentration?
- What do you do when you have to concentrate a lot?
- How does performing these tasks contribute to your development?

E2. How do you challenge yourself at work?
- Do you set goals for yourself at work? What kinds of goals?
- How do you make sure you reach them?
- Do you think it is important to challenge yourself and set goals at work? Why (not)?

DE. What would an ideal project be like?
- No external interruptions, one day for one task, one project at a time, etc.
- What kind of a project would contribute the most to your personal development at work?

Repetition and Feedback

R1. How long have you been working in this field of business?

- When did you first start to think this field could be interesting?
- Do you have an interest in this field outside of your work?

R2. How did you get introduced to your current job and became a professional in it?

- What would be the best way to brief a new employee?
- Have you participated in any training programs related to your current work?

R3. How do you develop your skills at a particular task?

- How do you prepare for an important task (meeting, presentation, report etc.)?
- How do you practice at work? How much time are you able to allocate for practicing?
- What do you think about the role of repetition in professional development?

F1. What is the role of other people (colleagues / team members / superiors) in your work?

- What kind of support do you get? Do you get it on a daily / weekly / monthly basis?
- Do you have a mentor or a senior employee who allocates time for you?
- Do you practice tasks together with your colleagues?

F2. What is the role of feedback in your work?

- Do you usually get positive, negative, constructive, or informative feedback? How often?
- What kind of feedback is useful? What kind of feedback helps you to develop?
- Do you change your ways of working because of feedback? Can you give me an example?

RF. Why do you think you are an expert in this field?

- What is the most important thing you do to develop yourself professionally?
- What is the most important thing the company does to ensure your development?
- How can the development of expertise be measured in the field of business?